

# **APPENDIX BGH 21**



**Proposed Lidl Foodstore 1764 - Wakefield Road, Mapplewell.  
Trip Generation**

**EJSA** Associates  
Consulting Engineers

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The proposed Lidl store is to have a Retail Sales Area of 1,325m<sup>2</sup>

**Friday AM Peak:**

TRICS data for 08.00 - 09.00 gives

| Arrivals                        |       | Departures                      |       |
|---------------------------------|-------|---------------------------------|-------|
| Trip Rate/100m <sup>2</sup> RSA | Trips | Trip Rate/100m <sup>2</sup> RSA | Trips |
| 1.727                           | 23    | 0.818                           | 11    |

**Friday PM Peak:**

TRICS data for 17.00 - 18.00 gives

| Arrivals                        |       | Departures                      |       |
|---------------------------------|-------|---------------------------------|-------|
| Trip Rate/100m <sup>2</sup> RSA | Trips | Trip Rate/100m <sup>2</sup> RSA | Trips |
| 6.818                           | 90    | 7.000                           | 93    |

**Saturday Peak:**

TRICS data for 12.00 - 13.00 gives

| Arrivals                        |       | Departures                      |       |
|---------------------------------|-------|---------------------------------|-------|
| Trip Rate/100m <sup>2</sup> RSA | Trips | Trip Rate/100m <sup>2</sup> RSA | Trips |
| 5.823                           | 77    | 5.316                           | 70    |

## Traffic Generation

Residential

Proposed LIDL

1325 sq m

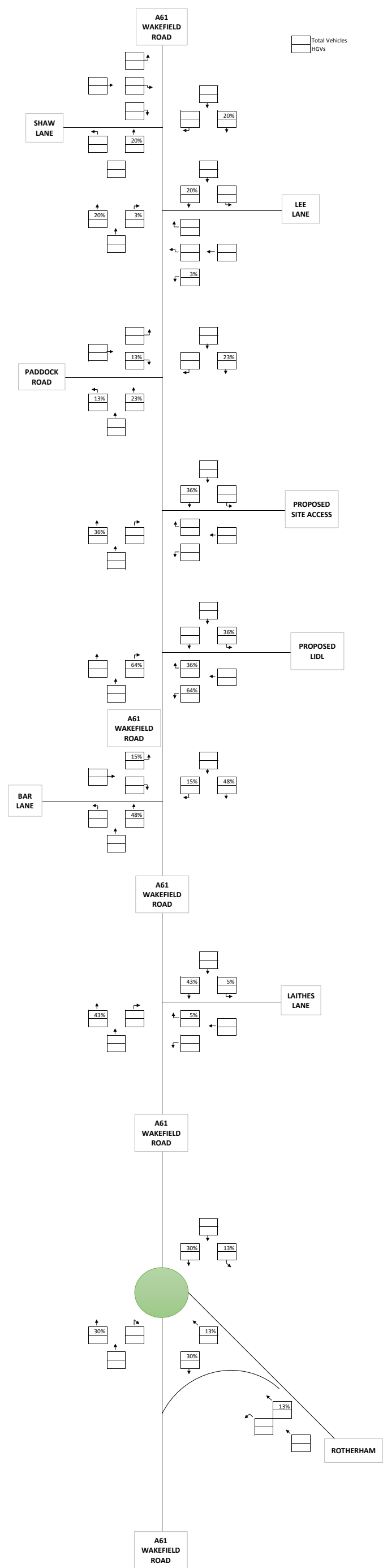
Trip Rate/100 sq m

|                                    | In    | Out   | Total  |
|------------------------------------|-------|-------|--------|
| Weekday Morning Peak 08:00 - 09:00 | 1.727 | 0.818 | 2.545  |
| Weekday Evening Peak 17:00 - 18:00 | 6.818 | 7.000 | 13.818 |
| Saturday Daytime Peak 11           | 5.823 | 5.316 | 11.139 |

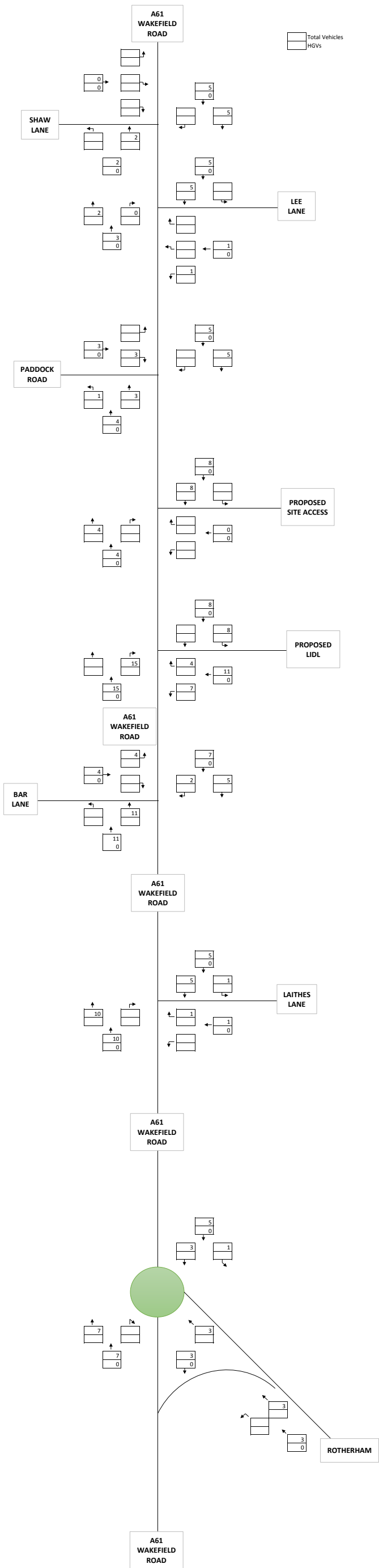
Trip Generation based 1325 sq m Retail Sales Area

|                                     | In | Out | Total |
|-------------------------------------|----|-----|-------|
| Weekday Morning Peak 08:00 - 09:00  | 23 | 11  | 34    |
| Weekday Evening Peak 17:00 - 18:00  | 90 | 93  | 183   |
| Saturday Daytime Peak 12:00 - 13:00 | 77 | 70  | 148   |

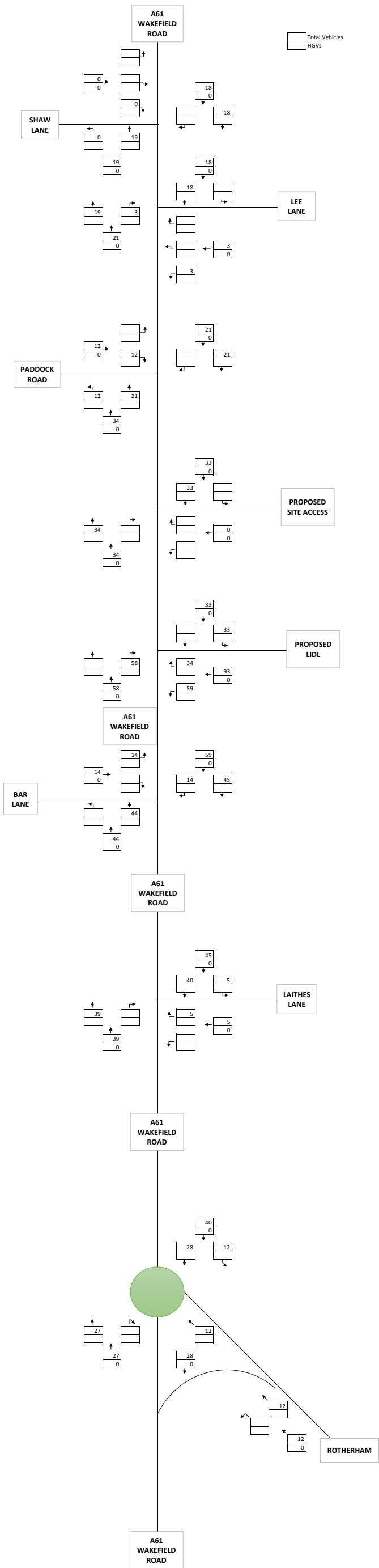
TRIP DISTRIBUTION  
PROPOSED LIDL, WAKEFIELD ROAD, MAPPLEWELL



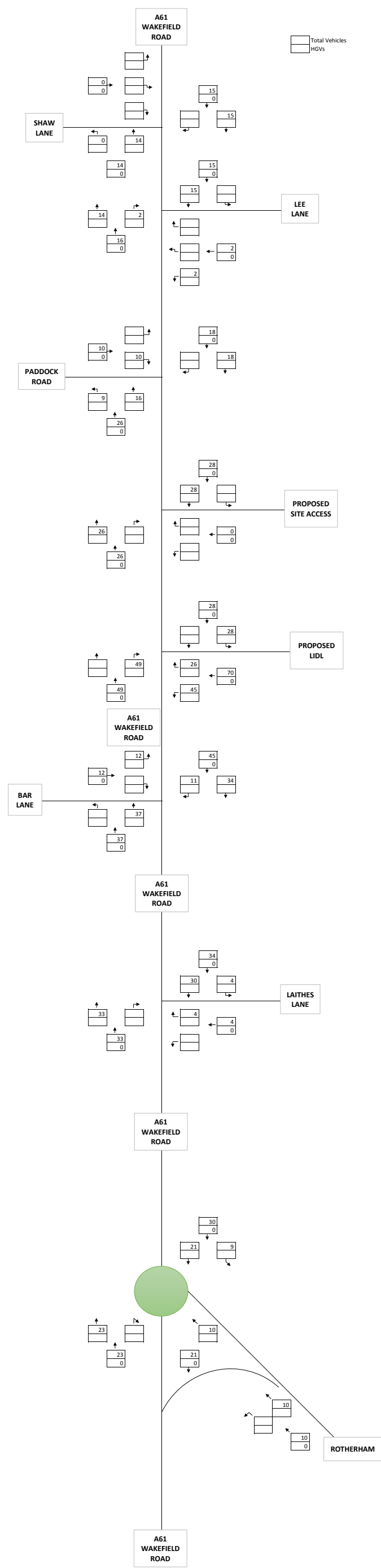
LIDL TRIP GENERATION  
PROPOSED LIDL, WAKEFIELD ROAD, MAPPLEWELL  
07:45 - 08:45  
AM PEAK



LIDL TRIP GENERATION  
PROPOSED LIDL, WAKEFIELD ROAD, MAPPLEWELL  
16:45 - 17:45  
PM PEAK

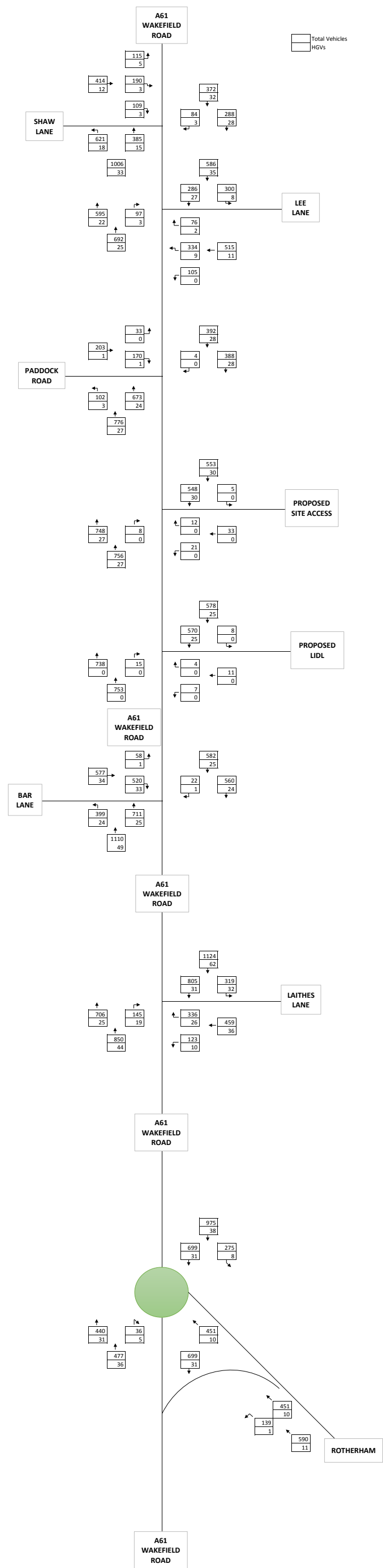


LIDL TRIP GENERATION  
PROPOSED LIDL, WAKEFIELD ROAD, MAPPLEWELL  
11:45 - 12:45  
SATURDAY DAYTIME PEAK

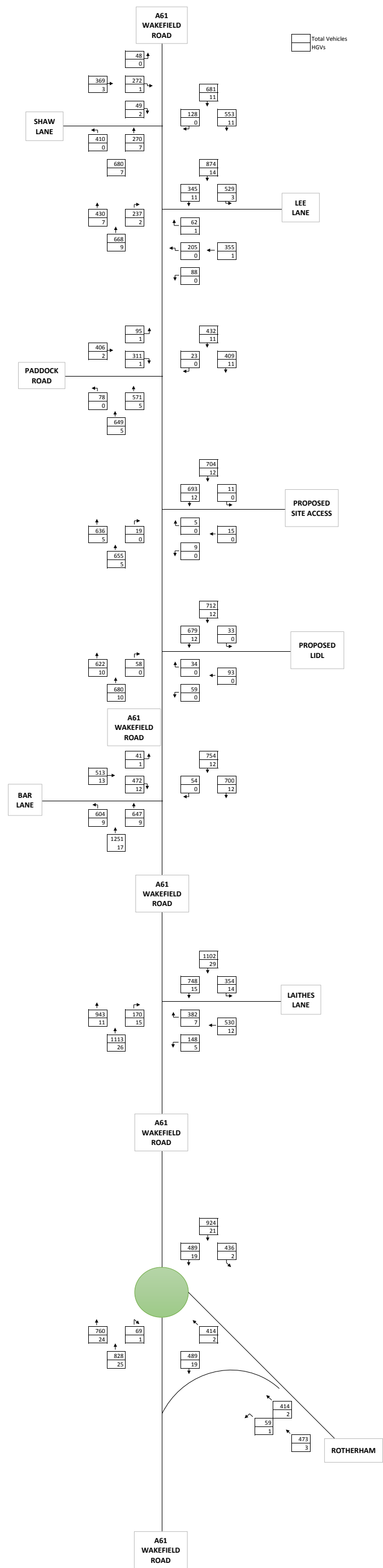


# **APPENDIX BGH 22**

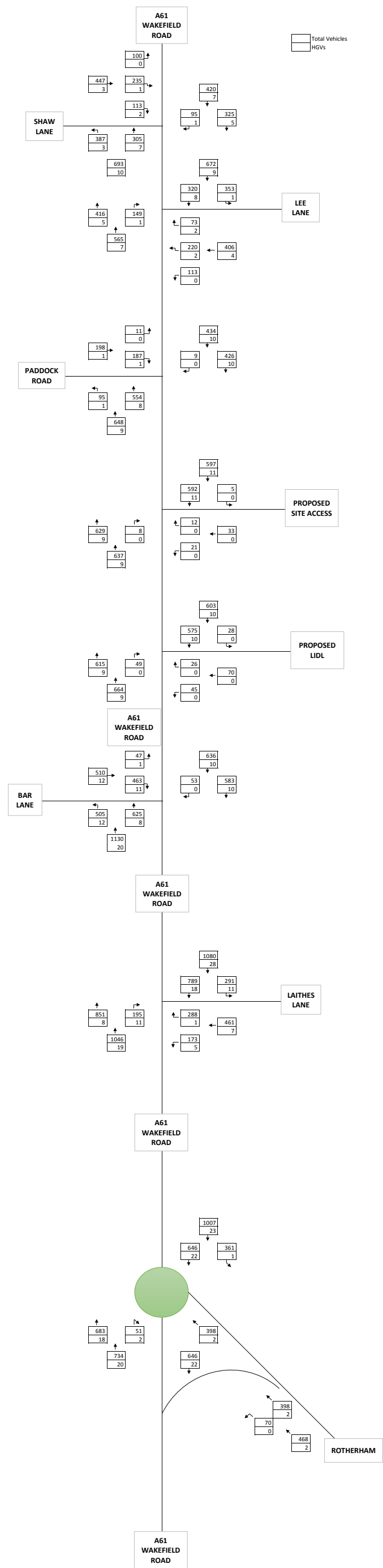
2023 PREDICTED FLOWS PLUS LIDL STORE - SENSITVITY TEST  
PROPOSED RESIDENTIAL DEVELOPMENT, WAKEFIELD ROAD, MAPPLEWELL  
AM PEAK



2023 PREDICTED FLOWS PLUS LIDL STORE - SENSITVITY TEST  
PROPOSED RESIDENTIAL DEVELOPMENT, WAKEFIELD ROAD, MAPPLEWELL  
PM PEAK



2023 PREDICTED FLOWS PLUS LIDL STORE - SENSITVITY TEST  
PROPOSED RESIDENTIAL DEVELOPMENT, WAKEFIELD ROAD, MAPPLEWELL  
SATURDAY PEAK



# **APPENDIX BGH 23**

| Junctions 8                                                                                                                                                                 |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| PICADY 8 - Priority Intersection Module                                                                                                                                     |  |  |  |  |
| Version: 8.0.5.523 [19102,19/06/2015]<br>© Copyright TRL Limited, 2018                                                                                                      |  |  |  |  |
| For sales and distribution information, program advice and maintenance, contact TRL:<br>Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk |  |  |  |  |
| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution            |  |  |  |  |

**Filename:** Wakefield Road - Lee Lane - Shaw Lane - Committed Scheme.arc8

**Path:** Y:\2014\14-101 to 14-125\14-114 Former William Freeman Works, Mapplewell\Technical\2017 Transport Assessment\Junction Modelling\Junctions 8\Wakefield Road - Lee Lane - Shaw Lane Committed Scheme

**Report generation date:** 08/01/2018 08:18:07

## « Committed Layout - 2023 Predicted with Lidl, AM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

## Summary of junction performance

|                                             | AM          |           |      |     |
|---------------------------------------------|-------------|-----------|------|-----|
|                                             | Queue (PCU) | Delay (s) | RFC  | LOS |
| Committed Layout - 2023 Predicted with Lidl |             |           |      |     |
| Stream B-C                                  | 0.58        | 15.99     | 0.37 | C   |
| Stream B-AD                                 | 43.38       | 561.65    | 1.34 | F   |
| Stream A-B                                  | -           | -         | -    | -   |
| Stream A-C                                  | -           | -         | -    | -   |
| Stream A-D                                  | 0.28        | 9.34      | 0.22 | A   |
| Stream D-A                                  | 0.36        | 11.42     | 0.27 | B   |
| Stream D-BC                                 | 119.35      | 1240.26   | 1.65 | F   |
| Stream C-D                                  | -           | -         | -    | -   |
| Stream C-A                                  | -           | -         | -    | -   |
| Stream C-B                                  | 0.36        | 13.44     | 0.27 | B   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D4 - 2023 Base, AM" model duration: 07:30 - 09:00

"D5 - 2023 Base, PM" model duration: 16:30 - 18:00

"D6 - 2023 Base, Saturday" model duration: 11:30 - 13:00

"D7 - 2023 Predicted, AM" model duration: 07:30 - 09:00

"D8 - 2023 Predicted, PM" model duration: 16:30 - 18:00

"D9 - 2023 Predicted, Saturday" model duration: 11:30 - 13:00

"D10 - 2023 Predicted with Lidl, AM" model duration: 07:30 - 09:00

"D11 - 2023 Predicted with Lidl, PM" model duration: 16:30 - 18:00

"D12 - 2023 Predicted with Lidl, Saturday" model duration: 11:30 - 13:00

Run using Junctions 8.0.5.523 at 08/01/2018 08:18:06

## File summary

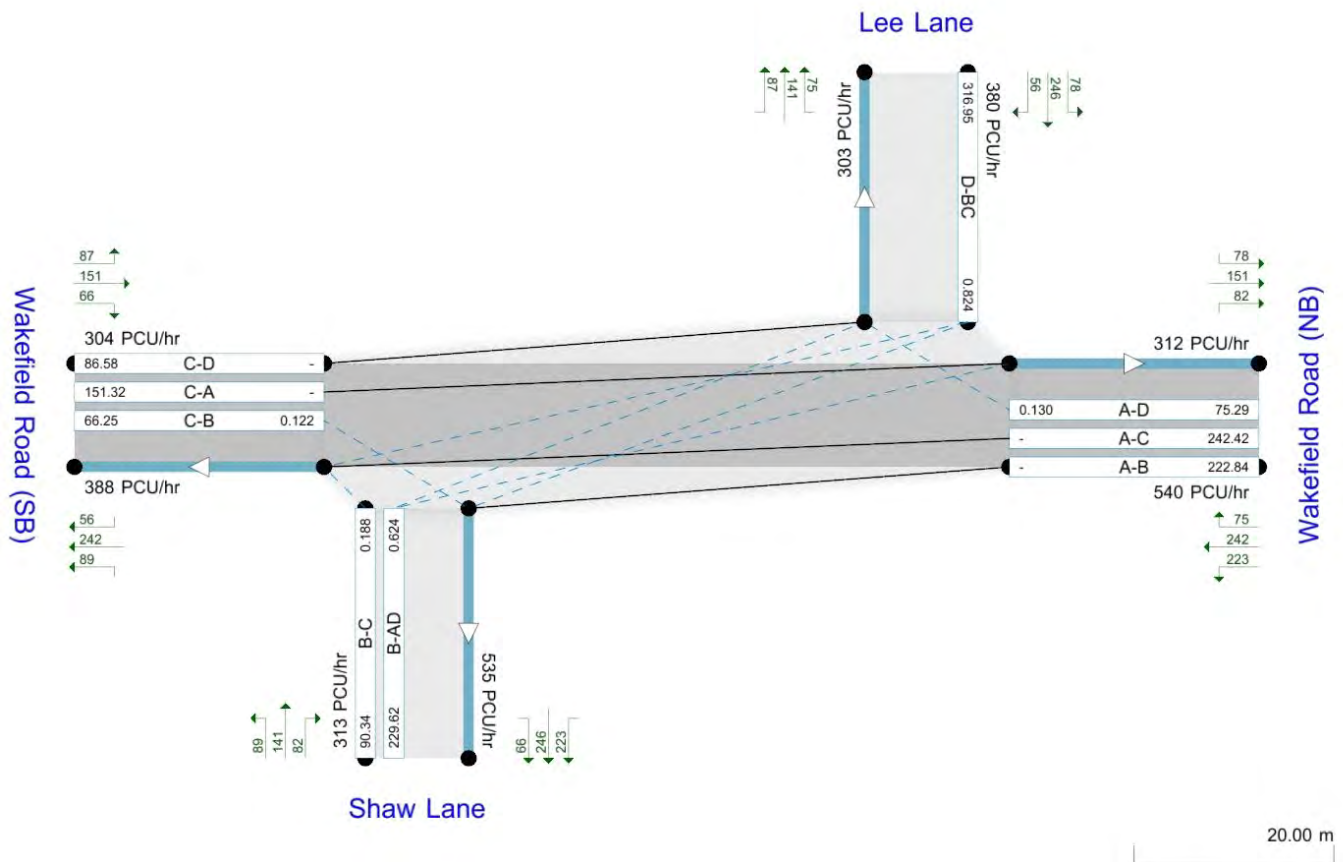
|                    |                                             |
|--------------------|---------------------------------------------|
| <b>Title</b>       | Mapplewell, Barnsley                        |
| <b>Location</b>    | Wakefield Road, Lee Lane, Shaw Lane Stagger |
| <b>Site Number</b> |                                             |
| <b>Date</b>        | 29/11/2017                                  |
| <b>Version</b>     |                                             |
| <b>Status</b>      | (new file)                                  |
| <b>Identifier</b>  |                                             |
| <b>Client</b>      | Netherton Building and Construction         |
| <b>Jobnumber</b>   | 14-114                                      |
| <b>Enumerator</b>  | BRYANGHALL\JTurner                          |
| <b>Description</b> |                                             |

## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | PCU                 | PCU                   | perHour    | s                   | -Min              | perMin              |



Showing modelled flow through junction (PCU/hr).  
Streams (upstreams) show Total Demand (PCU/hr). Streams (downstreams) show RFC (l).  
Time Segment: (07:30-07:45)  
Showing Analysis Set "A1 - Committed Layout"; Demand Set "D10 - 2023 Predicted with Lidl, AM"

The junction diagram reflects the last run of ARCADY.

## Committed Layout - 2023 Predicted with Lidl, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name             | Roundabout Capacity Model | Description | Locked | Network Flow Scaling Factor (%) | Reason For Scaling Factors |
|------------------|---------------------------|-------------|--------|---------------------------------|----------------------------|
| Committed Layout | N/A                       |             |        | 100.000                         |                            |

## Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Single Time Segment Only | Locked |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|--------------------------|--------|
| 2023 Predicted with Lidl, AM | 2023 Predicted with Lidl | AM               |             | ONE HOUR             | 07:30                    | 09:00                     | 90                             | 15                        |                          |        |

# Junction Network

## Junctions

| Junction | Name                                  | Junction Type                 | Major Road Direction | Arm Order | Junction Delay (s) | Junction LOS |
|----------|---------------------------------------|-------------------------------|----------------------|-----------|--------------------|--------------|
| 1        | Wakefield Road - Lee Lane - Shaw Lane | OS-NS Stagger (UK RL Stagger) | Two-way              | A,B,C,D   | 613.42             | F            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Name                | Arm | Name                | Description | Arm Type |
|---------------------|-----|---------------------|-------------|----------|
| Wakefield Road (NB) | A   | Wakefield Road (NB) |             | Major    |
| Shaw Lane           | B   | Shaw Lane           |             | Minor    |
| Wakefield Road (SB) | C   | Wakefield Road (SB) |             | Major    |
| Lee Lane            | D   | Lee Lane            |             | Minor    |

## Major Arm Geometry

| Name                | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|---------------------|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| Wakefield Road (NB) | 6.00                     |                            | 0.00                                | ✓                  | 3.00                     | 130.00                        |         |                      |
| Wakefield Road (SB) | 6.00                     |                            | 0.00                                | ✓                  | 3.00                     | 250.00                        |         |                      |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Name      | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----------|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| Shaw Lane | Two lanes      |                | 3.90                  | 3.85                   |                       |                 |                  |                  |                  | ✓                     |                    | 55                     | 35                      |
| Lee Lane  | Two lanes      |                | 3.88                  | 4.06                   |                       |                 |                  |                  |                  | ✓                     |                    | 40                     | 65                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for A-D | Slope for B-A | Slope for B-D | Slope for C-A | Slope for C-B | Slope for C-D | Slope for D-B | Slope for D-C |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 1        | A-D    | 705.776            | -             | -             | -             | 0.273         | 0.273         | 0.273         | -             | 0.273         | -             | -             |
| 1        | B-AD   | 556.295            | 0.101         | 0.256         | -             | -             | -             | 0.161         | 0.366         | 0.161         | 0.101         | 0.256         |
| 1        | B-C    | 704.176            | 0.108         | 0.273         | -             | -             | -             | -             | -             | -             | 0.108         | 0.273         |
| 1        | C-B    | 781.320            | 0.303         | 0.303         | -             | -             | -             | -             | -             | -             | 0.303         | 0.303         |
| 1        | D-A    | 723.432            | -             | -             | -             | 0.280         | 0.111         | 0.280         | -             | 0.111         | -             | -             |
| 1        | D-BC   | 578.082            | 0.167         | 0.167         | 0.380         | 0.266         | 0.105         | 0.266         | -             | 0.105         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Name                | Profile Type | Use Turning Counts | Average Demand Flow (PCU/hr) | Flow Scaling Factor (%) |
|---------------------|--------------|--------------------|------------------------------|-------------------------|
| Wakefield Road (NB) | ONE HOUR     | ✓                  | 718.00                       | 100.000                 |
| Shaw Lane           | ONE HOUR     | ✓                  | 425.00                       | 100.000                 |
| Wakefield Road (SB) | ONE HOUR     | ✓                  | 404.00                       | 100.000                 |
| Lee Lane            | ONE HOUR     | ✓                  | 526.00                       | 100.000                 |

## Turning Proportions

### Turning Counts / Proportions (PCU/hr) - Wakefield Road - Lee Lane - Shaw Lane (for whole period)

|      | To                  |                     |           |                     |          |
|------|---------------------|---------------------|-----------|---------------------|----------|
|      |                     | Wakefield Road (NB) | Shaw Lane | Wakefield Road (SB) | Lee Lane |
| From | Wakefield Road (NB) | 0.000               | 296.000   | 322.000             | 100.000  |
|      | Shaw Lane           | 112.000             | 0.000     | 120.000             | 193.000  |
|      | Wakefield Road (SB) | 201.000             | 88.000    | 0.000               | 115.000  |
|      | Lee Lane            | 105.000             | 343.000   | 78.000              | 0.000    |
|      |                     |                     |           |                     |          |

### Turning Proportions (PCU) - Wakefield Road - Lee Lane - Shaw Lane (for whole period)

|      | To                  |                     |           |                     |          |
|------|---------------------|---------------------|-----------|---------------------|----------|
|      |                     | Wakefield Road (NB) | Shaw Lane | Wakefield Road (SB) | Lee Lane |
| From | Wakefield Road (NB) | 0.00                | 0.41      | 0.45                | 0.14     |
|      | Shaw Lane           | 0.26                | 0.00      | 0.28                | 0.45     |
|      | Wakefield Road (SB) | 0.50                | 0.22      | 0.00                | 0.28     |
|      | Lee Lane            | 0.20                | 0.65      | 0.15                | 0.00     |
|      |                     |                     |           |                     |          |

## Vehicle Mix

### Average PCU Per Vehicle - Wakefield Road - Lee Lane - Shaw Lane (for whole period)

|      | To                  |                     |           |                     |          |
|------|---------------------|---------------------|-----------|---------------------|----------|
|      |                     | Wakefield Road (NB) | Shaw Lane | Wakefield Road (SB) | Lee Lane |
| From | Wakefield Road (NB) | 1.000               | 1.010     | 1.022               | 1.000    |
|      | Shaw Lane           | 1.010               | 1.000     | 1.000               | 1.006    |
|      | Wakefield Road (SB) | 1.028               | 1.000     | 1.000               | 1.000    |
|      | Lee Lane            | 1.000               | 1.010     | 1.000               | 1.000    |
|      |                     |                     |           |                     |          |

### Heavy Vehicle Percentages - Wakefield Road - Lee Lane - Shaw Lane (for whole period)

|      | To                  |                     |           |                     |          |
|------|---------------------|---------------------|-----------|---------------------|----------|
|      |                     | Wakefield Road (NB) | Shaw Lane | Wakefield Road (SB) | Lee Lane |
| From | Wakefield Road (NB) | 0.0                 | 1.0       | 2.2                 | 0.0      |
|      | Shaw Lane           | 1.0                 | 0.0       | 0.0                 | 0.6      |
|      | Wakefield Road (SB) | 2.8                 | 0.0       | 0.0                 | 0.0      |
|      | Lee Lane            | 0.0                 | 1.0       | 0.0                 | 0.0      |
|      |                     |                     |           |                     |          |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|--------|---------|---------------|-----------------|---------|
| B-C    | 0.37    | 15.99         | 0.58            | C       |
| B-AD   | 1.34    | 561.65        | 43.38           | F       |
| A-B    | -       | -             | -               | -       |
| A-C    | -       | -             | -               | -       |
| A-D    | 0.22    | 9.34          | 0.28            | A       |
| D-A    | 0.27    | 11.42         | 0.36            | B       |
| D-BC   | 1.65    | 1240.26       | 119.35          | F       |
| C-D    | -       | -             | -               | -       |
| C-A    | -       | -             | -               | -       |
| C-B    | 0.27    | 13.44         | 0.36            | B       |

## Main Results for each time segment

### Main results: (07:30-07:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 90.34                 | 89.43               | 0.00                       | 481.13            | 0.188 | 0.23            | 9.170     | A   |
| B-AD   | 229.62                | 223.39              | 0.00                       | 367.86            | 0.624 | 1.56            | 24.187    | C   |
| A-B    | 222.84                | 222.84              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 242.42                | 242.42              | 0.00                       | -                 | -     | -               | -         | -   |
| A-D    | 75.29                 | 74.69               | 0.00                       | 577.93            | 0.130 | 0.15            | 7.148     | A   |
| D-A    | 79.05                 | 78.31               | 0.00                       | 501.47            | 0.158 | 0.19            | 8.493     | A   |
| D-BC   | 316.95                | 302.14              | 0.00                       | 384.44            | 0.824 | 3.70            | 39.098    | E   |
| C-D    | 86.58                 | 86.58               | 0.00                       | -                 | -     | -               | -         | -   |
| C-A    | 151.32                | 151.32              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 66.25                 | 65.70               | 0.00                       | 544.52            | 0.122 | 0.14            | 7.511     | A   |

### Main results: (07:45-08:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 107.88                | 107.46              | 0.00                       | 426.58            | 0.253 | 0.33            | 11.266    | B   |
| B-AD   | 274.19                | 265.22              | 0.00                       | 329.16            | 0.833 | 3.80            | 50.698    | F   |
| A-B    | 266.10                | 266.10              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 289.47                | 289.47              | 0.00                       | -                 | -     | -               | -         | -   |
| A-D    | 89.90                 | 89.72               | 0.00                       | 551.41            | 0.163 | 0.19            | 7.791     | A   |
| D-A    | 94.39                 | 94.11               | 0.00                       | 459.59            | 0.205 | 0.26            | 9.835     | A   |
| D-BC   | 378.47                | 331.68              | 0.00                       | 345.60            | 1.095 | 15.40           | 131.491   | F   |
| C-D    | 103.38                | 103.38              | 0.00                       | -                 | -     | -               | -         | -   |
| C-A    | 180.69                | 180.69              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 79.11                 | 78.90               | 0.00                       | 494.08            | 0.160 | 0.19            | 8.666     | A   |

### Main results: (08:00-08:15)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 132.12                | 131.33              | 0.00                       | 374.66            | 0.353 | 0.53            | 14.746    | B   |
| B-AD   | 335.81                | 265.79              | 0.00                       | 272.44            | 1.233 | 21.31           | 202.092   | F   |
| A-B    | 325.90                | 325.90              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 354.53                | 354.53              | 0.00                       | -                 | -     | -               | -         | -   |
| A-D    | 110.10                | 109.80              | 0.00                       | 514.65            | 0.214 | 0.27            | 8.886     | A   |
| D-A    | 115.61                | 115.22              | 0.00                       | 439.95            | 0.263 | 0.35            | 11.072    | B   |
| D-BC   | 463.53                | 291.36              | 0.00                       | 292.09            | 1.587 | 58.44           | 485.964   | F   |
| C-D    | 126.62                | 126.62              | 0.00                       | -                 | -     | -               | -         | -   |
| C-A    | 221.31                | 221.31              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 96.89                 | 96.45               | 0.00                       | 416.37            | 0.233 | 0.30            | 11.236    | B   |

### Main results: (08:15-08:30)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 132.12                | 131.95              | 0.00                       | 356.78            | 0.370 | 0.58            | 15.994    | C   |
| B-AD   | 335.81                | 249.05              | 0.00                       | 249.90            | 1.344 | 43.00           | 473.049   | F   |
| A-B    | 325.90                | 325.90              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 354.53                | 354.53              | 0.00                       | -                 | -     | -               | -         | -   |
| A-D    | 110.10                | 110.05              | 0.00                       | 495.50            | 0.222 | 0.28            | 9.338     | A   |
| D-A    | 115.61                | 115.56              | 0.00                       | 430.86            | 0.268 | 0.36            | 11.417    | B   |
| D-BC   | 463.53                | 280.36              | 0.00                       | 280.47            | 1.653 | 104.23          | 985.774   | F   |
| C-D    | 126.62                | 126.62              | 0.00                       | -                 | -     | -               | -         | -   |
| C-A    | 221.31                | 221.31              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 96.89                 | 96.66               | 0.00                       | 364.25            | 0.266 | 0.36            | 13.440    | B   |

### Main results: (08:30-08:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 107.88                | 108.46              | 0.00                       | 364.74            | 0.296 | 0.43            | 14.079    | B   |
| B-AD   | 274.19                | 272.66              | 0.00                       | 276.57            | 0.991 | 43.38           | 561.646   | F   |
| A-B    | 266.10                | 266.10              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 289.47                | 289.47              | 0.00                       | -                 | -     | -               | -         | -   |
| A-D    | 89.90                 | 90.15               | 0.00                       | 506.09            | 0.178 | 0.22            | 8.662     | A   |
| D-A    | 94.39                 | 94.73               | 0.00                       | 438.07            | 0.215 | 0.28            | 10.495    | B   |
| D-BC   | 378.47                | 318.01              | 0.00                       | 318.16            | 1.190 | 119.35          | 1240.259  | F   |
| C-D    | 103.38                | 103.38              | 0.00                       | -                 | -     | -               | -         | -   |
| C-A    | 180.69                | 180.69              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 79.11                 | 79.44               | 0.00                       | 372.35            | 0.212 | 0.27            | 12.306    | B   |

### Main results: (08:45-09:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 90.34                 | 90.78               | 0.00                       | 377.98            | 0.239 | 0.32            | 12.555    | B   |
| B-AD   | 229.62                | 298.47              | 0.00                       | 305.40            | 0.752 | 26.16           | 424.122   | F   |
| A-B    | 222.84                | 222.84              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 242.42                | 242.42              | 0.00                       | -                 | -     | -               | -         | -   |
| A-D    | 75.29                 | 75.49               | 0.00                       | 530.48            | 0.142 | 0.17            | 7.915     | A   |
| D-A    | 79.05                 | 79.30               | 0.00                       | 451.23            | 0.175 | 0.22            | 9.687     | A   |
| D-BC   | 316.95                | 352.61              | 0.00                       | 355.59            | 0.891 | 110.43          | 1173.528  | F   |
| C-D    | 86.58                 | 86.58               | 0.00                       | -                 | -     | -               | -         | -   |
| C-A    | 151.32                | 151.32              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 66.25                 | 66.54               | 0.00                       | 400.00            | 0.166 | 0.20            | 10.807    | B   |

| Junctions 8                                                                                                                                                                 |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| PICADY 8 - Priority Intersection Module                                                                                                                                     |  |  |  |  |
| Version: 8.0.5.523 [19102,19/06/2015]<br>© Copyright TRL Limited, 2018                                                                                                      |  |  |  |  |
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| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution            |  |  |  |  |

**Filename:** Wakefield Road - Lee Lane - Shaw Lane - Committed Scheme.arc8

**Path:** Y:\2014\14-101 to 14-125\14-114 Former William Freeman Works, Mapplewell\Technical\2017 Transport Assessment\Junction Modelling\Junctions 8\Wakefield Road - Lee Lane - Shaw Lane Committed Scheme

**Report generation date:** 08/01/2018 08:18:53

## « Committed Layout - 2023 Predicted with Lidl, PM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

## Summary of junction performance

|                                             | PM          |           |      |     |
|---------------------------------------------|-------------|-----------|------|-----|
|                                             | Queue (PCU) | Delay (s) | RFC  | LOS |
| Committed Layout - 2023 Predicted with Lidl |             |           |      |     |
| Stream B-C                                  | 0.14        | 9.80      | 0.13 | A   |
| Stream B-AD                                 | 47.54       | 530.78    | 1.33 | F   |
| Stream A-B                                  | -           | -         | -    | -   |
| Stream A-C                                  | -           | -         | -    | -   |
| Stream A-D                                  | 1.71        | 24.19     | 0.64 | C   |
| Stream D-A                                  | 0.31        | 11.83     | 0.24 | B   |
| Stream D-BC                                 | 40.04       | 492.79    | 1.35 | F   |
| Stream C-D                                  | -           | -         | -    | -   |
| Stream C-A                                  | -           | -         | -    | -   |
| Stream C-B                                  | 0.36        | 9.32      | 0.27 | A   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D4 - 2023 Base, AM" model duration: 07:30 - 09:00

"D5 - 2023 Base, PM" model duration: 16:30 - 18:00

"D6 - 2023 Base, Saturday" model duration: 11:30 - 13:00

"D7 - 2023 Predicted, AM" model duration: 07:30 - 09:00

"D8 - 2023 Predicted, PM" model duration: 16:30 - 18:00

"D9 - 2023 Predicted, Saturday" model duration: 11:30 - 13:00

"D10 - 2023 Predicted with Lidl, AM" model duration: 07:30 - 09:00

"D11 - 2023 Predicted with Lidl, PM " model duration: 16:30 - 18:00

"D12 - 2023 Predicted with Lidl, Saturday" model duration: 11:30 - 13:00

Run using Junctions 8.0.5.523 at 08/01/2018 08:18:52

## File summary

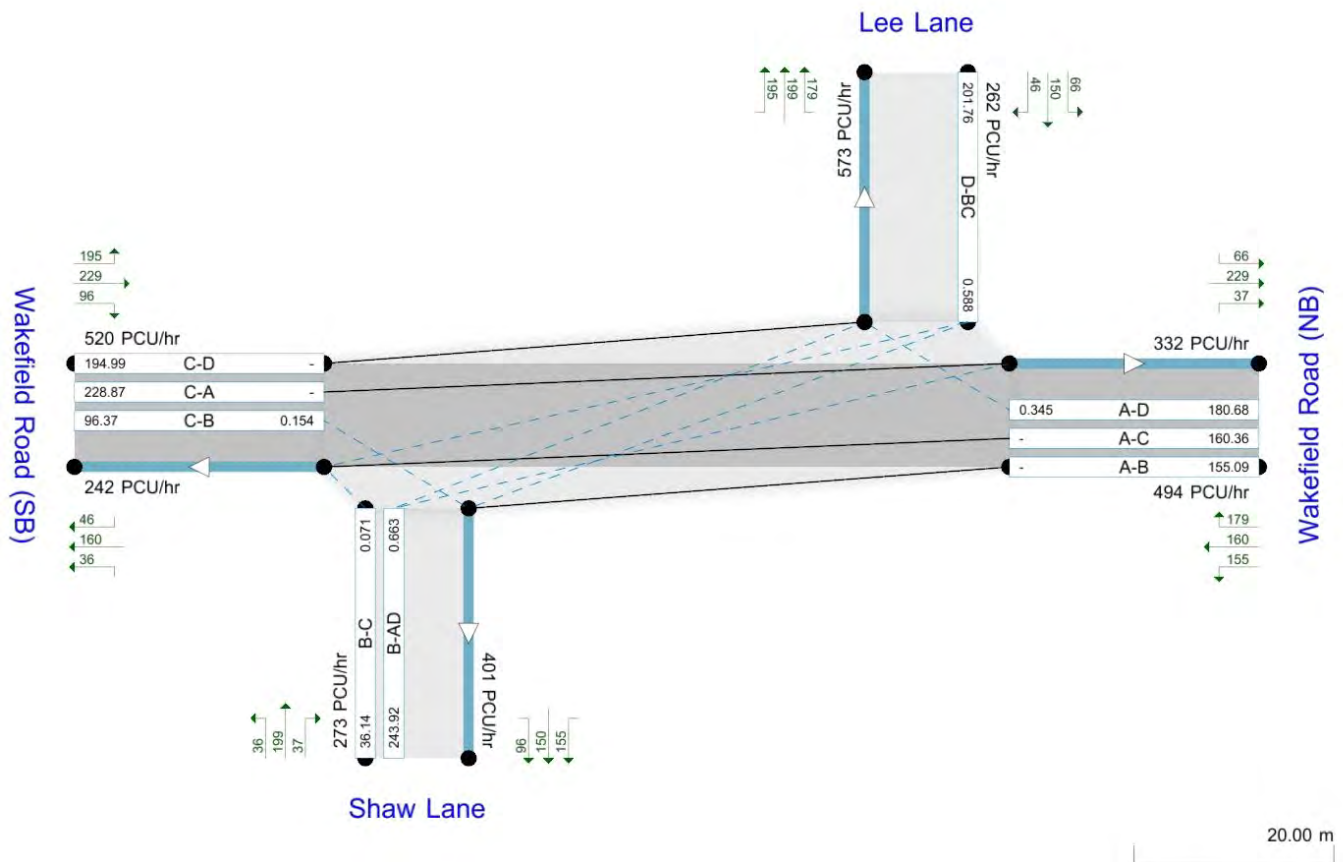
|                    |                                             |
|--------------------|---------------------------------------------|
| <b>Title</b>       | Mapplewell, Barnsley                        |
| <b>Location</b>    | Wakefield Road, Lee Lane, Shaw Lane Stagger |
| <b>Site Number</b> |                                             |
| <b>Date</b>        | 29/11/2017                                  |
| <b>Version</b>     |                                             |
| <b>Status</b>      | (new file)                                  |
| <b>Identifier</b>  |                                             |
| <b>Client</b>      | Netherton Building and Construction         |
| <b>Jobnumber</b>   | 14-114                                      |
| <b>Enumerator</b>  | BRYANGHALL\JTurner                          |
| <b>Description</b> |                                             |

## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | PCU                 | PCU                   | perHour    | s                   | -Min              | perMin              |



Showing modelled flow through junction (PCU/hr).  
Streams (upstreams) show Total Demand (PCU/hr); Streams (downstreams) show RFC (s)  
Time Segment: (16:30-16:45)  
Showing Analysis Set "A1 - Committed Layout"; Demand Set "D11 - 2023 Predicted with Lidl, PM"

The junction diagram reflects the last run of ARCADY.

## Committed Layout - 2023 Predicted with Lidl, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name             | Roundabout Capacity Model | Description | Locked | Network Flow Scaling Factor (%) | Reason For Scaling Factors |
|------------------|---------------------------|-------------|--------|---------------------------------|----------------------------|
| Committed Layout | N/A                       |             |        | 100.000                         |                            |

## Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Single Time Segment Only | Locked |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|--------------------------|--------|
| 2023 Predicted with Lidl, PM | 2023 Predicted with Lidl | PM               |             | ONE HOUR             | 16:30                    | 18:00                     | 90                             | 15                        |                          |        |

# Junction Network

## Junctions

| Junction | Name                                  | Junction Type                 | Major Road Direction | Arm Order | Junction Delay (s) | Junction LOS |
|----------|---------------------------------------|-------------------------------|----------------------|-----------|--------------------|--------------|
| 1        | Wakefield Road - Lee Lane - Shaw Lane | OS-NS Stagger (UK RL Stagger) | Two-way              | A,B,C,D   | 285.17             | F            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Name                | Arm | Name                | Description | Arm Type |
|---------------------|-----|---------------------|-------------|----------|
| Wakefield Road (NB) | A   | Wakefield Road (NB) |             | Major    |
| Shaw Lane           | B   | Shaw Lane           |             | Minor    |
| Wakefield Road (SB) | C   | Wakefield Road (SB) |             | Major    |
| Lee Lane            | D   | Lee Lane            |             | Minor    |

## Major Arm Geometry

| Name                | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|---------------------|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| Wakefield Road (NB) | 6.00                     |                            | 0.00                                | ✓                  | 3.00                     | 130.00                        |         |                      |
| Wakefield Road (SB) | 6.00                     |                            | 0.00                                | ✓                  | 3.00                     | 250.00                        |         |                      |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Name      | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----------|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| Shaw Lane | Two lanes      |                | 3.90                  | 3.85                   |                       |                 |                  |                  |                  | ✓                     |                    | 55                     | 35                      |
| Lee Lane  | Two lanes      |                | 3.88                  | 4.06                   |                       |                 |                  |                  |                  | ✓                     |                    | 40                     | 65                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for A-D | Slope for B-A | Slope for B-D | Slope for C-A | Slope for C-B | Slope for C-D | Slope for D-B | Slope for D-C |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 1        | A-D    | 705.776            | -             | -             | -             | 0.273         | 0.273         | 0.273         | -             | 0.273         | -             | -             |
| 1        | B-AD   | 556.295            | 0.101         | 0.256         | -             | -             | -             | 0.161         | 0.366         | 0.161         | 0.101         | 0.256         |
| 1        | B-C    | 704.176            | 0.108         | 0.273         | -             | -             | -             | -             | -             | -             | 0.108         | 0.273         |
| 1        | C-B    | 781.320            | 0.303         | 0.303         | -             | -             | -             | -             | -             | -             | 0.303         | 0.303         |
| 1        | D-A    | 723.432            | -             | -             | -             | 0.280         | 0.111         | 0.280         | -             | 0.111         | -             | -             |
| 1        | D-BC   | 578.082            | 0.167         | 0.167         | 0.380         | 0.266         | 0.105         | 0.266         | -             | 0.105         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Name                | Profile Type | Use Turning Counts | Average Demand Flow (PCU/hr) | Flow Scaling Factor (%) |
|---------------------|--------------|--------------------|------------------------------|-------------------------|
| Wakefield Road (NB) | ONE HOUR     | ✓                  | 659.00                       | 100.000                 |
| Shaw Lane           | ONE HOUR     | ✓                  | 372.00                       | 100.000                 |
| Wakefield Road (SB) | ONE HOUR     | ✓                  | 691.00                       | 100.000                 |
| Lee Lane            | ONE HOUR     | ✓                  | 356.00                       | 100.000                 |

## Turning Proportions

### Turning Counts / Proportions (PCU/hr) - Wakefield Road - Lee Lane - Shaw Lane (for whole period)

|      | To                  |                     |           |                     |          |
|------|---------------------|---------------------|-----------|---------------------|----------|
|      |                     | Wakefield Road (NB) | Shaw Lane | Wakefield Road (SB) | Lee Lane |
| From | Wakefield Road (NB) | 0.000               | 206.000   | 213.000             | 240.000  |
|      | Shaw Lane           | 51.000              | 0.000     | 48.000              | 273.000  |
|      | Wakefield Road (SB) | 304.000             | 128.000   | 0.000               | 259.000  |
|      | Lee Lane            | 88.000              | 205.000   | 63.000              | 0.000    |

### Turning Proportions (PCU) - Wakefield Road - Lee Lane - Shaw Lane (for whole period)

|      | To                  |                     |           |                     |          |
|------|---------------------|---------------------|-----------|---------------------|----------|
|      |                     | Wakefield Road (NB) | Shaw Lane | Wakefield Road (SB) | Lee Lane |
| From | Wakefield Road (NB) | 0.00                | 0.31      | 0.32                | 0.36     |
|      | Shaw Lane           | 0.14                | 0.00      | 0.13                | 0.73     |
|      | Wakefield Road (SB) | 0.44                | 0.19      | 0.00                | 0.37     |
|      | Lee Lane            | 0.25                | 0.58      | 0.18                | 0.00     |
|      |                     |                     |           |                     |          |

## Vehicle Mix

### Average PCU Per Vehicle - Wakefield Road - Lee Lane - Shaw Lane (for whole period)

|      | To                  |                     |           |                     |          |
|------|---------------------|---------------------|-----------|---------------------|----------|
|      |                     | Wakefield Road (NB) | Shaw Lane | Wakefield Road (SB) | Lee Lane |
| From | Wakefield Road (NB) | 1.000               | 1.010     | 1.022               | 1.000    |
|      | Shaw Lane           | 1.010               | 1.000     | 1.000               | 1.006    |
|      | Wakefield Road (SB) | 1.028               | 1.000     | 1.000               | 1.000    |
|      | Lee Lane            | 1.000               | 1.010     | 1.000               | 1.000    |
|      |                     |                     |           |                     |          |

### Heavy Vehicle Percentages - Wakefield Road - Lee Lane - Shaw Lane (for whole period)

|      | To                  |                     |           |                     |          |
|------|---------------------|---------------------|-----------|---------------------|----------|
|      |                     | Wakefield Road (NB) | Shaw Lane | Wakefield Road (SB) | Lee Lane |
| From | Wakefield Road (NB) | 0.0                 | 1.0       | 2.2                 | 0.0      |
|      | Shaw Lane           | 1.0                 | 0.0       | 0.0                 | 0.6      |
|      | Wakefield Road (SB) | 2.8                 | 0.0       | 0.0                 | 0.0      |
|      | Lee Lane            | 0.0                 | 1.0       | 0.0                 | 0.0      |
|      |                     |                     |           |                     |          |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|--------|---------|---------------|-----------------|---------|
| B-C    | 0.13    | 9.80          | 0.14            | A       |
| B-AD   | 1.33    | 530.78        | 47.54           | F       |
| A-B    | -       | -             | -               | -       |
| A-C    | -       | -             | -               | -       |
| A-D    | 0.64    | 24.19         | 1.71            | C       |
| D-A    | 0.24    | 11.83         | 0.31            | B       |
| D-BC   | 1.35    | 492.79        | 40.04           | F       |
| C-D    | -       | -             | -               | -       |
| C-A    | -       | -             | -               | -       |
| C-B    | 0.27    | 9.32          | 0.36            | A       |

## Main Results for each time segment

### Main results: (16:30-16:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 36.14                 | 35.84               | 0.00                       | 512.38            | 0.071 | 0.08            | 7.549     | A   |
| B-AD   | 243.92                | 236.68              | 0.00                       | 368.18            | 0.663 | 1.81            | 26.311    | D   |
| A-B    | 155.09                | 155.09              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 160.36                | 160.36              | 0.00                       | -                 | -     | -               | -         | -   |
| A-D    | 180.68                | 178.61              | 0.00                       | 523.17            | 0.345 | 0.52            | 10.387    | B   |
| D-A    | 66.25                 | 65.67               | 0.00                       | 515.34            | 0.129 | 0.15            | 7.995     | A   |
| D-BC   | 201.76                | 196.38              | 0.00                       | 343.28            | 0.588 | 1.35            | 23.912    | C   |
| C-D    | 194.99                | 194.99              | 0.00                       | -                 | -     | -               | -         | -   |
| C-A    | 228.87                | 228.87              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 96.37                 | 95.64               | 0.00                       | 624.75            | 0.154 | 0.18            | 6.796     | A   |

### Main results: (16:45-17:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 43.15                 | 43.04               | 0.00                       | 461.34            | 0.094 | 0.10            | 8.604     | A   |
| B-AD   | 291.27                | 279.21              | 0.00                       | 330.67            | 0.881 | 4.83            | 59.690    | F   |
| A-B    | 185.19                | 185.19              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 191.48                | 191.48              | 0.00                       | -                 | -     | -               | -         | -   |
| A-D    | 215.76                | 214.71              | 0.00                       | 485.74            | 0.444 | 0.78            | 13.228    | B   |
| D-A    | 79.11                 | 78.87               | 0.00                       | 459.29            | 0.172 | 0.21            | 9.457     | A   |
| D-BC   | 240.93                | 232.72              | 0.00                       | 295.97            | 0.814 | 3.40            | 51.677    | F   |
| C-D    | 232.84                | 232.84              | 0.00                       | -                 | -     | -               | -         | -   |
| C-A    | 273.29                | 273.29              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 115.07                | 114.84              | 0.00                       | 592.73            | 0.194 | 0.24            | 7.529     | A   |

### Main results: (17:00-17:15)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 52.85                 | 52.70               | 0.00                       | 427.82            | 0.124 | 0.14            | 9.592     | A   |
| B-AD   | 356.73                | 274.12              | 0.00                       | 278.97            | 1.279 | 25.48           | 228.439   | F   |
| A-B    | 226.81                | 226.81              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 234.52                | 234.52              | 0.00                       | -                 | -     | -               | -         | -   |
| A-D    | 264.24                | 261.45              | 0.00                       | 433.44            | 0.610 | 1.48            | 20.595    | C   |
| D-A    | 96.89                 | 96.49               | 0.00                       | 409.70            | 0.236 | 0.30            | 11.478    | B   |
| D-BC   | 295.07                | 225.24              | 0.00                       | 230.98            | 1.277 | 20.86           | 227.783   | F   |
| C-D    | 285.16                | 285.16              | 0.00                       | -                 | -     | -               | -         | -   |
| C-A    | 334.71                | 334.71              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 140.93                | 140.52              | 0.00                       | 548.22            | 0.257 | 0.34            | 8.821     | A   |

### Main results: (17:15-17:30)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 52.85                 | 52.84               | 0.00                       | 420.14            | 0.126 | 0.14            | 9.801     | A   |
| B-AD   | 356.73                | 268.47              | 0.00                       | 269.20            | 1.325 | 47.54           | 488.972   | F   |
| A-B    | 226.81                | 226.81              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 234.52                | 234.52              | 0.00                       | -                 | -     | -               | -         | -   |
| A-D    | 264.24                | 263.33              | 0.00                       | 410.85            | 0.643 | 1.71            | 24.185    | C   |
| D-A    | 96.89                 | 96.85               | 0.00                       | 401.18            | 0.242 | 0.31            | 11.827    | B   |
| D-BC   | 295.07                | 218.33              | 0.00                       | 219.13            | 1.347 | 40.04           | 492.791   | F   |
| C-D    | 285.16                | 285.16              | 0.00                       | -                 | -     | -               | -         | -   |
| C-A    | 334.71                | 334.71              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 140.93                | 140.85              | 0.00                       | 527.08            | 0.267 | 0.36            | 9.318     | A   |

### Main results: (17:30-17:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 43.15                 | 43.27               | 0.00                       | 429.83            | 0.100 | 0.11            | 9.317     | A   |
| B-AD   | 291.27                | 302.68              | 0.00                       | 309.09            | 0.942 | 44.69           | 530.778   | F   |
| A-B    | 185.19                | 185.19              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 191.48                | 191.48              | 0.00                       | -                 | -     | -               | -         | -   |
| A-D    | 215.76                | 218.52              | 0.00                       | 435.72            | 0.495 | 1.01            | 16.778    | C   |
| D-A    | 79.11                 | 79.42               | 0.00                       | 416.09            | 0.190 | 0.24            | 10.702    | B   |
| D-BC   | 240.93                | 263.64              | 0.00                       | 270.27            | 0.891 | 34.36           | 489.741   | F   |
| C-D    | 232.84                | 232.84              | 0.00                       | -                 | -     | -               | -         | -   |
| C-A    | 273.29                | 273.29              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 115.07                | 115.43              | 0.00                       | 545.87            | 0.211 | 0.27            | 8.372     | A   |

### Main results: (17:45-18:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 36.14                 | 36.23               | 0.00                       | 445.44            | 0.081 | 0.09            | 8.799     | A   |
| B-AD   | 243.92                | 341.18              | 0.00                       | 348.86            | 0.699 | 20.38           | 349.577   | F   |
| A-B    | 155.09                | 155.09              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 160.36                | 160.36              | 0.00                       | -                 | -     | -               | -         | -   |
| A-D    | 180.68                | 182.23              | 0.00                       | 474.28            | 0.381 | 0.63            | 12.392    | B   |
| D-A    | 66.25                 | 66.48               | 0.00                       | 434.64            | 0.152 | 0.18            | 9.785     | A   |
| D-BC   | 201.76                | 309.32              | 0.00                       | 318.39            | 0.634 | 7.48            | 255.198   | F   |
| C-D    | 194.99                | 194.99              | 0.00                       | -                 | -     | -               | -         | -   |
| C-A    | 228.87                | 228.87              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 96.37                 | 96.65               | 0.00                       | 583.14            | 0.165 | 0.20            | 7.403     | A   |

| Junctions 8                                                                                                                                                                 |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| PICADY 8 - Priority Intersection Module                                                                                                                                     |  |  |  |  |
| Version: 8.0.5.523 [19102,19/06/2015]<br>© Copyright TRL Limited, 2018                                                                                                      |  |  |  |  |
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| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution            |  |  |  |  |

**Filename:** Wakefield Road - Lee Lane - Shaw Lane - Committed Scheme.arc8

**Path:** Y:\2014\14-101 to 14-125\14-114 Former William Freeman Works, Mapplewell\Technical\2017 Transport Assessment\Junction Modelling\Junctions 8\Wakefield Road - Lee Lane - Shaw Lane Committed Scheme

**Report generation date:** 08/01/2018 08:20:29

## « Committed Layout - 2023 Predicted with Lidl, Saturday

### » Junction Network

### » Arms

### » Traffic Flows

### » Entry Flows

### » Turning Proportions

### » Vehicle Mix

### » Results

## Summary of junction performance

|                                             | Saturday    |           |      |     |
|---------------------------------------------|-------------|-----------|------|-----|
|                                             | Queue (PCU) | Delay (s) | RFC  | LOS |
| Committed Layout - 2023 Predicted with Lidl |             |           |      |     |
| Stream B-C                                  | 0.35        | 11.72     | 0.26 | B   |
| Stream B-AD                                 | 38.58       | 356.59    | 1.21 | F   |
| Stream A-B                                  | -           | -         | -    | -   |
| Stream A-C                                  | -           | -         | -    | -   |
| Stream A-D                                  | 0.52        | 11.53     | 0.35 | B   |
| Stream D-A                                  | 0.41        | 12.02     | 0.29 | B   |
| Stream D-BC                                 | 23.93       | 253.80    | 1.13 | F   |
| Stream C-D                                  | -           | -         | -    | -   |
| Stream C-A                                  | -           | -         | -    | -   |
| Stream C-B                                  | 0.25        | 8.46      | 0.20 | A   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D4 - 2023 Base, AM" model duration: 07:30 - 09:00

"D5 - 2023 Base, PM" model duration: 16:30 - 18:00

"D6 - 2023 Base, Saturday" model duration: 11:30 - 13:00

"D7 - 2023 Predicted, AM" model duration: 07:30 - 09:00

"D8 - 2023 Predicted, PM" model duration: 16:30 - 18:00

"D9 - 2023 Predicted, Saturday" model duration: 11:30 - 13:00

"D10 - 2023 Predicted with Lidl, AM" model duration: 07:30 - 09:00

"D11 - 2023 Predicted with Lidl, PM" model duration: 16:30 - 18:00

"D12 - 2023 Predicted with Lidl, Saturday" model duration: 11:30 - 13:00

Run using Junctions 8.0.5.523 at 08/01/2018 08:20:28

## File summary

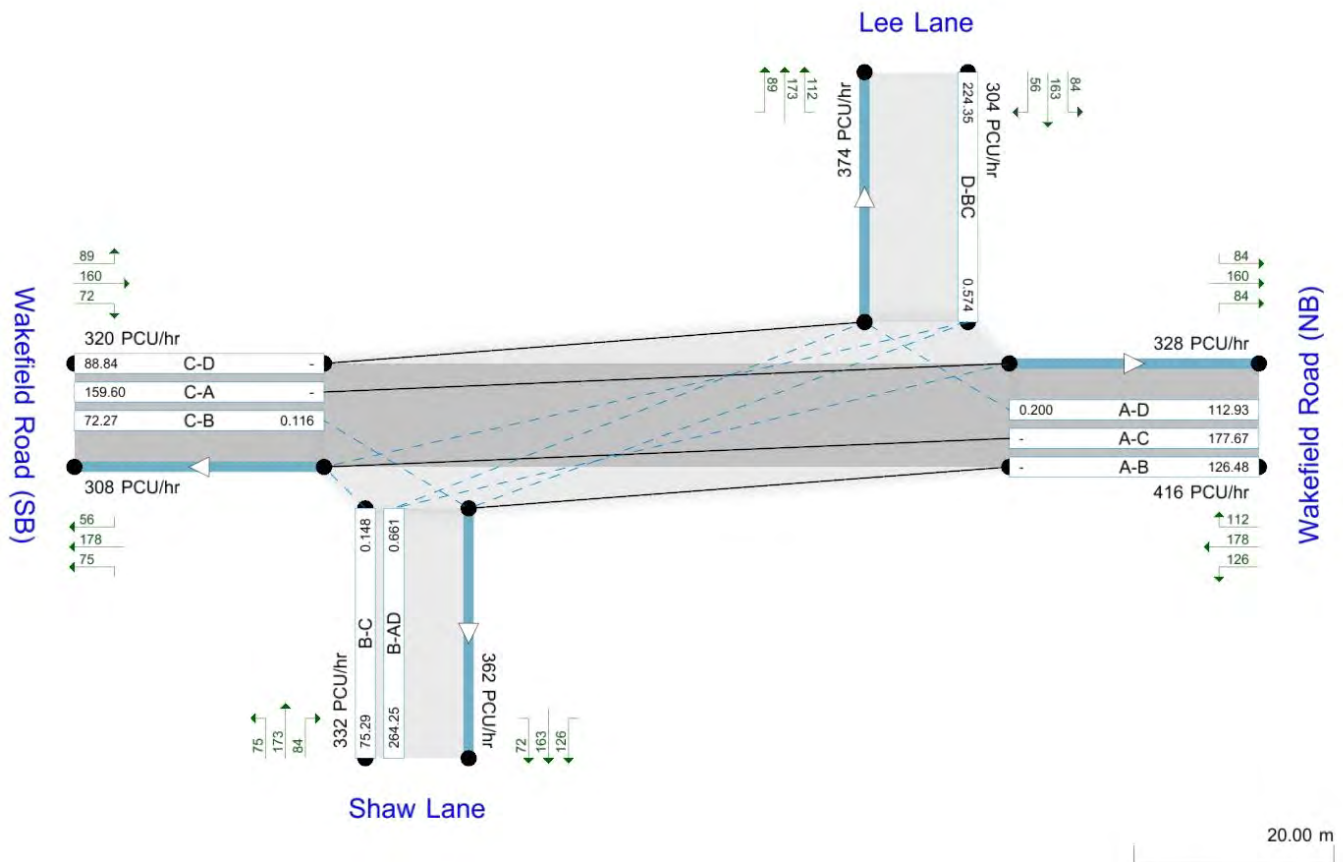
|                    |                                             |
|--------------------|---------------------------------------------|
| <b>Title</b>       | Mapplewell, Barnsley                        |
| <b>Location</b>    | Wakefield Road, Lee Lane, Shaw Lane Stagger |
| <b>Site Number</b> |                                             |
| <b>Date</b>        | 29/11/2017                                  |
| <b>Version</b>     |                                             |
| <b>Status</b>      | (new file)                                  |
| <b>Identifier</b>  |                                             |
| <b>Client</b>      | Netherton Building and Construction         |
| <b>Jobnumber</b>   | 14-114                                      |
| <b>Enumerator</b>  | BRYANGHALL\JTurner                          |
| <b>Description</b> |                                             |

## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | PCU                 | PCU                   | perHour    | s                   | -Min              | perMin              |



Showing modelled flow through junction (PCU/hr).  
Streams (upstreams) show Total Demand (PCU/hr). Streams (downstreams) show RFC (l).  
Time Segment: (11:30-11:45)  
Showing Analysis Set "A1 - Committed Layout"; Demand Set "D12 - 2023 Predicted with Lidl, Saturday"

The junction diagram reflects the last run of ARCADY.

## Committed Layout - 2023 Predicted with Lidl, Saturday

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name             | Roundabout Capacity Model | Description | Locked | Network Flow Scaling Factor (%) | Reason For Scaling Factors |
|------------------|---------------------------|-------------|--------|---------------------------------|----------------------------|
| Committed Layout | N/A                       |             |        | 100.000                         |                            |

## Demand Set Details

| Name                               | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Single Time Segment Only | Locked |
|------------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|--------------------------|--------|
| 2023 Predicted with Lidl, Saturday | 2023 Predicted with Lidl | Saturday         |             | ONE HOUR             | 11:30                    | 13:00                     | 90                             | 15                        |                          |        |

# Junction Network

## Junctions

| Junction | Name                                  | Junction Type                 | Major Road Direction | Arm Order | Junction Delay (s) | Junction LOS |
|----------|---------------------------------------|-------------------------------|----------------------|-----------|--------------------|--------------|
| 1        | Wakefield Road - Lee Lane - Shaw Lane | OS-NS Stagger (UK RL Stagger) | Two-way              | A,B,C,D   | 185.80             | F            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Name                | Arm | Name                | Description | Arm Type |
|---------------------|-----|---------------------|-------------|----------|
| Wakefield Road (NB) | A   | Wakefield Road (NB) |             | Major    |
| Shaw Lane           | B   | Shaw Lane           |             | Minor    |
| Wakefield Road (SB) | C   | Wakefield Road (SB) |             | Major    |
| Lee Lane            | D   | Lee Lane            |             | Minor    |

## Major Arm Geometry

| Name                | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|---------------------|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| Wakefield Road (NB) | 6.00                     |                            | 0.00                                | ✓                  | 3.00                     | 130.00                        |         |                      |
| Wakefield Road (SB) | 6.00                     |                            | 0.00                                | ✓                  | 3.00                     | 250.00                        |         |                      |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Name      | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----------|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| Shaw Lane | Two lanes      |                | 3.90                  | 3.85                   |                       |                 |                  |                  |                  | ✓                     |                    | 55                     | 35                      |
| Lee Lane  | Two lanes      |                | 3.88                  | 4.06                   |                       |                 |                  |                  |                  | ✓                     |                    | 40                     | 65                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for A-D | Slope for B-A | Slope for B-D | Slope for C-A | Slope for C-B | Slope for C-D | Slope for D-B | Slope for D-C |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 1        | A-D    | 705.776            | -             | -             | -             | 0.273         | 0.273         | 0.273         | -             | 0.273         | -             | -             |
| 1        | B-AD   | 556.295            | 0.101         | 0.256         | -             | -             | -             | 0.161         | 0.366         | 0.161         | 0.101         | 0.256         |
| 1        | B-C    | 704.176            | 0.108         | 0.273         | -             | -             | -             | -             | -             | -             | 0.108         | 0.273         |
| 1        | C-B    | 781.320            | 0.303         | 0.303         | -             | -             | -             | -             | -             | -             | 0.303         | 0.303         |
| 1        | D-A    | 723.432            | -             | -             | -             | 0.280         | 0.111         | 0.280         | -             | 0.111         | -             | -             |
| 1        | D-BC   | 578.082            | 0.167         | 0.167         | 0.380         | 0.266         | 0.105         | 0.266         | -             | 0.105         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Name                | Profile Type | Use Turning Counts | Average Demand Flow (PCU/hr) | Flow Scaling Factor (%) |
|---------------------|--------------|--------------------|------------------------------|-------------------------|
| Wakefield Road (NB) | ONE HOUR     | ✓                  | 554.00                       | 100.000                 |
| Shaw Lane           | ONE HOUR     | ✓                  | 451.00                       | 100.000                 |
| Wakefield Road (SB) | ONE HOUR     | ✓                  | 426.00                       | 100.000                 |
| Lee Lane            | ONE HOUR     | ✓                  | 411.00                       | 100.000                 |

## Turning Proportions

### Turning Counts / Proportions (PCU/hr) - Wakefield Road - Lee Lane - Shaw Lane (for whole period)

|      | To                  |                     |           |                     |          |
|------|---------------------|---------------------|-----------|---------------------|----------|
|      |                     | Wakefield Road (NB) | Shaw Lane | Wakefield Road (SB) | Lee Lane |
| From | Wakefield Road (NB) | 0.000               | 168.000   | 236.000             | 150.000  |
|      | Shaw Lane           | 115.000             | 0.000     | 100.000             | 236.000  |
|      | Wakefield Road (SB) | 212.000             | 96.000    | 0.000               | 118.000  |
|      | Lee Lane            | 113.000             | 222.000   | 76.000              | 0.000    |
|      |                     |                     |           |                     |          |

### Turning Proportions (PCU) - Wakefield Road - Lee Lane - Shaw Lane (for whole period)

|      | To                  |                     |           |                     |          |
|------|---------------------|---------------------|-----------|---------------------|----------|
|      |                     | Wakefield Road (NB) | Shaw Lane | Wakefield Road (SB) | Lee Lane |
| From | Wakefield Road (NB) | 0.00                | 0.30      | 0.43                | 0.27     |
|      | Shaw Lane           | 0.25                | 0.00      | 0.22                | 0.52     |
|      | Wakefield Road (SB) | 0.50                | 0.23      | 0.00                | 0.28     |
|      | Lee Lane            | 0.27                | 0.54      | 0.18                | 0.00     |
|      |                     |                     |           |                     |          |

## Vehicle Mix

### Average PCU Per Vehicle - Wakefield Road - Lee Lane - Shaw Lane (for whole period)

|      | To                  |                     |           |                     |          |
|------|---------------------|---------------------|-----------|---------------------|----------|
|      |                     | Wakefield Road (NB) | Shaw Lane | Wakefield Road (SB) | Lee Lane |
| From | Wakefield Road (NB) | 1.000               | 1.010     | 1.022               | 1.000    |
|      | Shaw Lane           | 1.010               | 1.000     | 1.000               | 1.006    |
|      | Wakefield Road (SB) | 1.028               | 1.000     | 1.000               | 1.000    |
|      | Lee Lane            | 1.000               | 1.010     | 1.000               | 1.000    |
|      |                     |                     |           |                     |          |

### Heavy Vehicle Percentages - Wakefield Road - Lee Lane - Shaw Lane (for whole period)

|      | To                  |                     |           |                     |          |
|------|---------------------|---------------------|-----------|---------------------|----------|
|      |                     | Wakefield Road (NB) | Shaw Lane | Wakefield Road (SB) | Lee Lane |
| From | Wakefield Road (NB) | 0.0                 | 1.0       | 2.2                 | 0.0      |
|      | Shaw Lane           | 1.0                 | 0.0       | 0.0                 | 0.6      |
|      | Wakefield Road (SB) | 2.8                 | 0.0       | 0.0                 | 0.0      |
|      | Lee Lane            | 0.0                 | 1.0       | 0.0                 | 0.0      |
|      |                     |                     |           |                     |          |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|--------|---------|---------------|-----------------|---------|
| B-C    | 0.26    | 11.72         | 0.35            | B       |
| B-AD   | 1.21    | 356.59        | 38.58           | F       |
| A-B    | -       | -             | -               | -       |
| A-C    | -       | -             | -               | -       |
| A-D    | 0.35    | 11.53         | 0.52            | B       |
| D-A    | 0.29    | 12.02         | 0.41            | B       |
| D-BC   | 1.13    | 253.80        | 23.93           | F       |
| C-D    | -       | -             | -               | -       |
| C-A    | -       | -             | -               | -       |
| C-B    | 0.20    | 8.46          | 0.25            | A       |

## Main Results for each time segment

### Main results: (11:30-11:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 75.29                 | 74.60               | 0.00                       | 507.90            | 0.148 | 0.17            | 8.283     | A   |
| B-AD   | 264.25                | 257.01              | 0.00                       | 399.92            | 0.661 | 1.81            | 24.303    | C   |
| A-B    | 126.48                | 126.48              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 177.67                | 177.67              | 0.00                       | -                 | -     | -               | -         | -   |
| A-D    | 112.93                | 111.94              | 0.00                       | 565.58            | 0.200 | 0.25            | 7.921     | A   |
| D-A    | 85.07                 | 84.32               | 0.00                       | 535.16            | 0.159 | 0.19            | 7.973     | A   |
| D-BC   | 224.35                | 219.20              | 0.00                       | 390.65            | 0.574 | 1.29            | 20.594    | C   |
| C-D    | 88.84                 | 88.84               | 0.00                       | -                 | -     | -               | -         | -   |
| C-A    | 159.60                | 159.60              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 72.27                 | 71.75               | 0.00                       | 621.33            | 0.116 | 0.13            | 6.545     | A   |

### Main results: (11:45-12:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 89.90                 | 89.63               | 0.00                       | 460.10            | 0.195 | 0.24            | 9.710     | A   |
| B-AD   | 315.54                | 305.32              | 0.00                       | 368.65            | 0.856 | 4.37            | 50.444    | F   |
| A-B    | 151.03                | 151.03              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 212.16                | 212.16              | 0.00                       | -                 | -     | -               | -         | -   |
| A-D    | 134.85                | 134.51              | 0.00                       | 536.38            | 0.251 | 0.33            | 8.951     | A   |
| D-A    | 101.58                | 101.29              | 0.00                       | 487.55            | 0.208 | 0.26            | 9.314     | A   |
| D-BC   | 267.90                | 262.12              | 0.00                       | 352.75            | 0.759 | 2.73            | 37.747    | E   |
| C-D    | 106.08                | 106.08              | 0.00                       | -                 | -     | -               | -         | -   |
| C-A    | 190.58                | 190.58              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 86.30                 | 86.14               | 0.00                       | 588.72            | 0.147 | 0.17            | 7.161     | A   |

### Main results: (12:00-12:15)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 110.10                | 109.67              | 0.00                       | 421.85            | 0.261 | 0.35            | 11.515    | B   |
| B-AD   | 386.46                | 317.91              | 0.00                       | 325.82            | 1.186 | 21.50           | 172.801   | F   |
| A-B    | 184.97                | 184.97              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 259.84                | 259.84              | 0.00                       | -                 | -     | -               | -         | -   |
| A-D    | 165.15                | 164.52              | 0.00                       | 495.97            | 0.333 | 0.49            | 10.844    | B   |
| D-A    | 124.42                | 123.87              | 0.00                       | 432.29            | 0.288 | 0.40            | 11.651    | B   |
| D-BC   | 328.10                | 285.64              | 0.00                       | 300.70            | 1.091 | 13.35           | 128.733   | F   |
| C-D    | 129.92                | 129.92              | 0.00                       | -                 | -     | -               | -         | -   |
| C-A    | 233.42                | 233.42              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 105.70                | 105.42              | 0.00                       | 544.03            | 0.194 | 0.24            | 8.203     | A   |

### Main results: (12:15-12:30)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 110.10                | 110.07              | 0.00                       | 417.07            | 0.264 | 0.35            | 11.724    | B   |
| B-AD   | 386.46                | 318.15              | 0.00                       | 319.74            | 1.209 | 38.58           | 351.846   | F   |
| A-B    | 184.97                | 184.97              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 259.84                | 259.84              | 0.00                       | -                 | -     | -               | -         | -   |
| A-D    | 165.15                | 165.03              | 0.00                       | 477.22            | 0.346 | 0.52            | 11.526    | B   |
| D-A    | 124.42                | 124.36              | 0.00                       | 423.74            | 0.294 | 0.41            | 12.021    | B   |
| D-BC   | 328.10                | 285.77              | 0.00                       | 289.63            | 1.133 | 23.93           | 253.802   | F   |
| C-D    | 129.92                | 129.92              | 0.00                       | -                 | -     | -               | -         | -   |
| C-A    | 233.42                | 233.42              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 105.70                | 105.67              | 0.00                       | 531.18            | 0.199 | 0.25            | 8.460     | A   |

### Main results: (12:30-12:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 89.90                 | 90.25               | 0.00                       | 431.59            | 0.208 | 0.27            | 10.559    | B   |
| B-AD   | 315.54                | 346.68              | 0.00                       | 355.73            | 0.887 | 30.80           | 356.592   | F   |
| A-B    | 151.03                | 151.03              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 212.16                | 212.16              | 0.00                       | -                 | -     | -               | -         | -   |
| A-D    | 134.85                | 135.42              | 0.00                       | 496.17            | 0.272 | 0.38            | 9.994     | A   |
| D-A    | 101.58                | 101.99              | 0.00                       | 435.05            | 0.234 | 0.31            | 10.823    | B   |
| D-BC   | 267.90                | 315.80              | 0.00                       | 329.10            | 0.814 | 11.96           | 210.971   | F   |
| C-D    | 106.08                | 106.08              | 0.00                       | -                 | -     | -               | -         | -   |
| C-A    | 190.58                | 190.58              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 86.30                 | 86.55               | 0.00                       | 561.30            | 0.154 | 0.18            | 7.589     | A   |

### Main results: (12:45-13:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 75.29                 | 75.55               | 0.00                       | 453.02            | 0.166 | 0.20            | 9.545     | A   |
| B-AD   | 264.25                | 375.45              | 0.00                       | 392.92            | 0.673 | 2.99            | 168.646   | F   |
| A-B    | 126.48                | 126.48              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 177.67                | 177.67              | 0.00                       | -                 | -     | -               | -         | -   |
| A-D    | 112.93                | 113.35              | 0.00                       | 531.89            | 0.212 | 0.27            | 8.609     | A   |
| D-A    | 85.07                 | 85.47               | 0.00                       | 493.42            | 0.172 | 0.21            | 8.832     | A   |
| D-BC   | 224.35                | 265.46              | 0.00                       | 370.61            | 0.605 | 1.68            | 45.377    | E   |
| C-D    | 88.84                 | 88.84               | 0.00                       | -                 | -     | -               | -         | -   |
| C-A    | 159.60                | 159.60              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 72.27                 | 72.46               | 0.00                       | 606.85            | 0.119 | 0.14            | 6.740     | A   |

| Junctions 8                                                                                                                                                                 |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| PICADY 8 - Priority Intersection Module                                                                                                                                     |  |  |  |  |
| Version: 8.0.5.523 [19102,19/06/2015]<br>© Copyright TRL Limited, 2018                                                                                                      |  |  |  |  |
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**Filename:** Wakefield Road - Paddock Road.arc8

**Path:** Y:\2014\14-101 to 14-125\14-114 Former William Freeman Works, Mapplewell\Technical\2017 Transport Assessment\Junction Modelling\Junctions 8\Wakefield Road - Paddock Road

**Report generation date:** 08/01/2018 08:27:05

## « Existing Layout - 2023 Predicted with Lidl, AM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

## Summary of junction performance

|                                            | AM          |           |      |     |
|--------------------------------------------|-------------|-----------|------|-----|
|                                            | Queue (PCU) | Delay (s) | RFC  | LOS |
| Existing Layout - 2023 Predicted with Lidl |             |           |      |     |
| Stream B-C                                 | 0.14        | 14.35     | 0.13 | B   |
| Stream B-A                                 | 1.55        | 30.64     | 0.62 | D   |
| Stream C-AB                                | 0.01        | 4.72      | 0.01 | A   |
| Stream C-A                                 | -           | -         | -    | -   |
| Stream A-B                                 | -           | -         | -    | -   |
| Stream A-C                                 | -           | -         | -    | -   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2017 Existing, AM" model duration: 07:30 - 09:00  
 "D2 - 2017 Existing, PM" model duration: 16:30 - 18:00  
 "D3 - 2017 Existing, Saturday" model duration: 11:30 - 13:00  
 "D4 - 2023 Base, AM" model duration: 07:30 - 09:00  
 "D5 - 2023 Base, PM" model duration: 16:30 - 18:00  
 "D6 - 2023 Base, Saturday" model duration: 11:30 - 13:00  
 "D7 - 2023 Predicted, AM" model duration: 07:30 - 09:00  
 "D8 - 2023 Predicted, PM" model duration: 16:30 - 18:00  
 "D9 - 2023 Predicted, Saturday" model duration: 11:30 - 13:00  
 "D10 - 2023 Predicted with Lidl, AM " model duration: 07:30 - 09:00  
 "D11 - 2023 Predicted with Lidl, PM" model duration: 16:30 - 18:00  
 "D12 - 2023 Predicted with Lidl, Saturday" model duration: 11:30 - 13:00

Run using Junctions 8.0.5.523 at 08/01/2018 08:27:04

## File summary

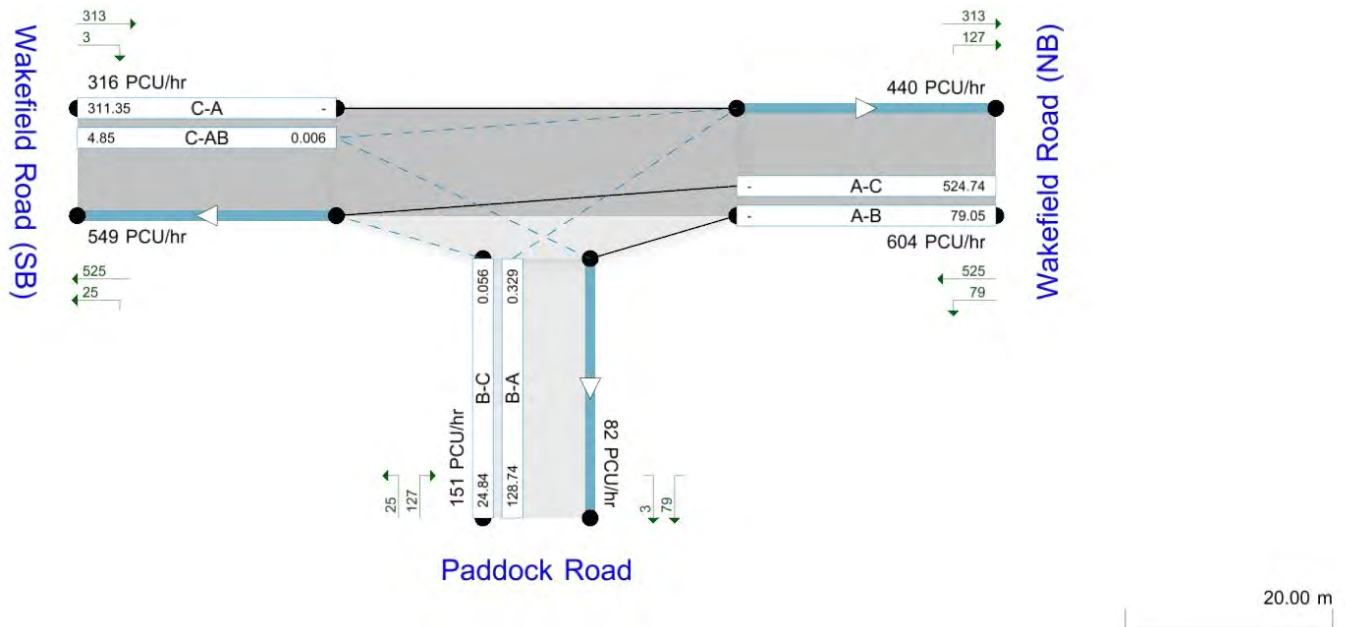
|                    |                                     |
|--------------------|-------------------------------------|
| <b>Title</b>       | Mapplewell, Barnsley                |
| <b>Location</b>    | Wakefield Road - Paddock Road       |
| <b>Site Number</b> |                                     |
| <b>Date</b>        | 29/11/2017                          |
| <b>Version</b>     |                                     |
| <b>Status</b>      | (new file)                          |
| <b>Identifier</b>  |                                     |
| <b>Client</b>      | Netherton Building and Construction |
| <b>Jobnumber</b>   | 14/114                              |
| <b>Enumerator</b>  | BRYANGHALLJTurner                   |
| <b>Description</b> |                                     |

## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | PCU                 | PCU                   | perHour    | s                   | -Min              | perMin              |



The junction diagram reflects the last run of ARCADY.

# Existing Layout - 2023 Predicted with Lidl, AM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Locked | Network Flow Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|--------|---------------------------------|----------------------------|
| Existing Layout | N/A                       |             |        | 100.000                         |                            |

## Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Single Time Segment Only | Locked |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|--------------------------|--------|
| 2023 Predicted with Lidl, AM | 2023 Predicted with Lidl | AM               |             | ONE HOUR             | 07:30                    | 09:00                     | 90                             | 15                        |                          |        |

# Junction Network

## Junctions

| Junction | Name        | Junction Type | Major Road Direction | Arm Order | Junction Delay (s) | Junction LOS |
|----------|-------------|---------------|----------------------|-----------|--------------------|--------------|
| 1        | Site Access | T-Junction    | Two-way              | A,B,C     | 27.19              | D            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Name                | Arm | Name                | Description | Arm Type |
|---------------------|-----|---------------------|-------------|----------|
| Wakefield Road (NB) | A   | Wakefield Road (NB) |             | Major    |
| Paddock Road        | B   | Paddock Road        |             | Minor    |
| Wakefield Road (SB) | C   | Wakefield Road (SB) |             | Major    |

## Major Arm Geometry

| Name                | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|---------------------|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| Wakefield Road (SB) | 7.90                     |                            | 0.00                                |                    | 2.20                     | 250.00                        | ✓       | 0.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Name         | Minor Arm Type      | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|--------------|---------------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| Paddock Road | One lane plus flare |                |                       |                        | 10.00                 | 6.00            | 4.40             | 3.00             | 3.00             |                       | 1.00               | 30                     | 80                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 1        | B-A    | 576.076            | 0.096         | 0.243         | 0.153         | 0.348         |
| 1        | B-C    | 622.807            | 0.088         | 0.221         | -             | -             |
| 1        | C-B    | 718.741            | 0.255         | 0.255         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Name                | Profile Type | Use Turning Counts | Average Demand Flow (PCU/hr) | Flow Scaling Factor (%) |
|---------------------|--------------|--------------------|------------------------------|-------------------------|
| Wakefield Road (NB) | ONE HOUR     | ✓                  | 802.00                       | 100.000                 |
| Paddock Road        | ONE HOUR     | ✓                  | 204.00                       | 100.000                 |
| Wakefield Road (SB) | ONE HOUR     | ✓                  | 420.00                       | 100.000                 |

## Turning Proportions

### Turning Counts / Proportions (PCU/hr) - Site Access (for whole period)

|      | To                  |                     |              |                     |
|------|---------------------|---------------------|--------------|---------------------|
|      |                     | Wakefield Road (NB) | Paddock Road | Wakefield Road (SB) |
| From | Wakefield Road (NB) | 0.000               | 105.000      | 697.000             |
|      | Paddock Road        | 171.000             | 0.000        | 33.000              |
|      | Wakefield Road (SB) | 416.000             | 4.000        | 0.000               |
|      |                     |                     |              |                     |

### Turning Proportions (PCU) - Site Access (for whole period)

|      | To                  |                     |              |                     |
|------|---------------------|---------------------|--------------|---------------------|
|      |                     | Wakefield Road (NB) | Paddock Road | Wakefield Road (SB) |
| From | Wakefield Road (NB) | 0.00                | 0.13         | 0.87                |
|      | Paddock Road        | 0.84                | 0.00         | 0.16                |
|      | Wakefield Road (SB) | 0.99                | 0.01         | 0.00                |
|      |                     |                     |              |                     |

## Vehicle Mix

### Average PCU Per Vehicle - Site Access (for whole period)

|      | To                  |                     |              |                     |
|------|---------------------|---------------------|--------------|---------------------|
|      |                     | Wakefield Road (NB) | Paddock Road | Wakefield Road (SB) |
| From | Wakefield Road (NB) | 1.000               | 1.000        | 1.016               |
|      | Paddock Road        | 1.000               | 1.000        | 1.000               |
|      | Wakefield Road (SB) | 1.022               | 1.000        | 1.000               |
|      |                     |                     |              |                     |

### Heavy Vehicle Percentages - Site Access (for whole period)

| From | To                  |                     |              |                     |
|------|---------------------|---------------------|--------------|---------------------|
|      |                     | Wakefield Road (NB) | Paddock Road | Wakefield Road (SB) |
|      | Wakefield Road (NB) | 0.0                 | 0.0          | 1.6                 |
|      | Paddock Road        | 0.0                 | 0.0          | 0.0                 |
|      | Wakefield Road (SB) | 2.2                 | 0.0          | 0.0                 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|--------|---------|---------------|-----------------|---------|
| B-C    | 0.13    | 14.35         | 0.14            | B       |
| B-A    | 0.62    | 30.64         | 1.55            | D       |
| C-AB   | 0.01    | 4.72          | 0.01            | A       |
| C-A    | -       | -             | -               | -       |
| A-B    | -       | -             | -               | -       |
| A-C    | -       | -             | -               | -       |

### Main Results for each time segment

#### Main results: (07:30-07:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 24.84                 | 24.61               | 0.00                       | 444.05            | 0.056 | 0.06            | 8.578     | A   |
| B-A    | 128.74                | 126.82              | 0.00                       | 391.48            | 0.329 | 0.48            | 13.507    | B   |
| C-AB   | 4.85                  | 4.82                | 0.00                       | 774.06            | 0.006 | 0.01            | 4.718     | A   |
| C-A    | 311.35                | 311.35              | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 79.05                 | 79.05               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 524.74                | 524.74              | 0.00                       | -                 | -     | -               | -         | -   |

#### Main results: (07:45-08:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 29.67                 | 29.58               | 0.00                       | 391.94            | 0.076 | 0.08            | 9.932     | A   |
| B-A    | 153.73                | 152.69              | 0.00                       | 355.37            | 0.433 | 0.74            | 17.667    | C   |
| C-AB   | 6.42                  | 6.41                | 0.00                       | 788.41            | 0.008 | 0.01            | 4.644     | A   |
| C-A    | 371.15                | 371.15              | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 94.39                 | 94.39               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 626.59                | 626.59              | 0.00                       | -                 | -     | -               | -         | -   |

#### Main results: (08:00-08:15)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 36.33                 | 36.10               | 0.00                       | 292.00            | 0.124 | 0.14            | 14.055    | B   |
| B-A    | 188.27                | 185.26              | 0.00                       | 304.97            | 0.617 | 1.49            | 29.346    | D   |
| C-AB   | 9.09                  | 9.07                | 0.00                       | 809.39            | 0.011 | 0.01            | 4.545     | A   |
| C-A    | 453.34                | 453.34              | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 115.61                | 115.61              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 767.41                | 767.41              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 36.33                 | 36.32               | 0.00                       | 287.18            | 0.127 | 0.14            | 14.350    | B   |
| B-A    | 188.27                | 188.05              | 0.00                       | 304.94            | 0.617 | 1.55            | 30.640    | D   |
| C-AB   | 9.09                  | 9.09                | 0.00                       | 809.40            | 0.011 | 0.01            | 4.550     | A   |
| C-A    | 453.34                | 453.34              | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 115.61                | 115.61              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 767.41                | 767.41              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 29.67                 | 29.90               | 0.00                       | 387.80            | 0.077 | 0.08            | 10.064    | B   |
| B-A    | 153.73                | 156.77              | 0.00                       | 355.39            | 0.433 | 0.79            | 18.387    | C   |
| C-AB   | 6.42                  | 6.44                | 0.00                       | 788.42            | 0.008 | 0.01            | 4.653     | A   |
| C-A    | 371.15                | 371.15              | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 94.39                 | 94.39               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 626.59                | 626.59              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (08:45-09:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 24.84                 | 24.94               | 0.00                       | 441.88            | 0.056 | 0.06            | 8.637     | A   |
| B-A    | 128.74                | 129.89              | 0.00                       | 391.50            | 0.329 | 0.50            | 13.822    | B   |
| C-AB   | 4.86                  | 4.87                | 0.00                       | 774.07            | 0.006 | 0.01            | 4.721     | A   |
| C-A    | 311.34                | 311.34              | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 79.05                 | 79.05               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 524.74                | 524.74              | 0.00                       | -                 | -     | -               | -         | -   |

| Junctions 8                                                                                                                                                                 |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| PICADY 8 - Priority Intersection Module                                                                                                                                     |  |  |  |  |
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**Filename:** Wakefield Road - Paddock Road.arc8

**Path:** Y:\2014\14-101 to 14-125\14-114 Former William Freeman Works, Mapplewell\Technical\2017 Transport Assessment\Junction Modelling\Junctions 8\Wakefield Road - Paddock Road

**Report generation date:** 08/01/2018 08:27:43

## « Existing Layout - 2023 Predicted with Lidl, PM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

## Summary of junction performance

|                                            | PM          |           |      |     |
|--------------------------------------------|-------------|-----------|------|-----|
|                                            | Queue (PCU) | Delay (s) | RFC  | LOS |
| Existing Layout - 2023 Predicted with Lidl |             |           |      |     |
| Stream B-C                                 | 8.90        | 324.97    | 1.12 | F   |
| Stream B-A                                 | 24.26       | 247.35    | 1.11 | F   |
| Stream C-AB                                | 0.11        | 4.70      | 0.06 | A   |
| Stream C-A                                 | -           | -         | -    | -   |
| Stream A-B                                 | -           | -         | -    | -   |
| Stream A-C                                 | -           | -         | -    | -   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2017 Existing, AM" model duration: 07:30 - 09:00

"D2 - 2017 Existing, PM" model duration: 16:30 - 18:00

"D3 - 2017 Existing, Saturday" model duration: 11:30 - 13:00

"D4 - 2023 Base, AM" model duration: 07:30 - 09:00

"D5 - 2023 Base, PM" model duration: 16:30 - 18:00

"D6 - 2023 Base, Saturday" model duration: 11:30 - 13:00

"D7 - 2023 Predicted, AM" model duration: 07:30 - 09:00

"D8 - 2023 Predicted, PM" model duration: 16:30 - 18:00

"D9 - 2023 Predicted, Saturday" model duration: 11:30 - 13:00

"D10 - 2023 Predicted with Lidl, AM" model duration: 07:30 - 09:00

"D11 - 2023 Predicted with Lidl, PM " model duration: 16:30 - 18:00

"D12 - 2023 Predicted with Lidl, Saturday" model duration: 11:30 - 13:00

Run using Junctions 8.0.5.523 at 08/01/2018 08:27:42

## File summary

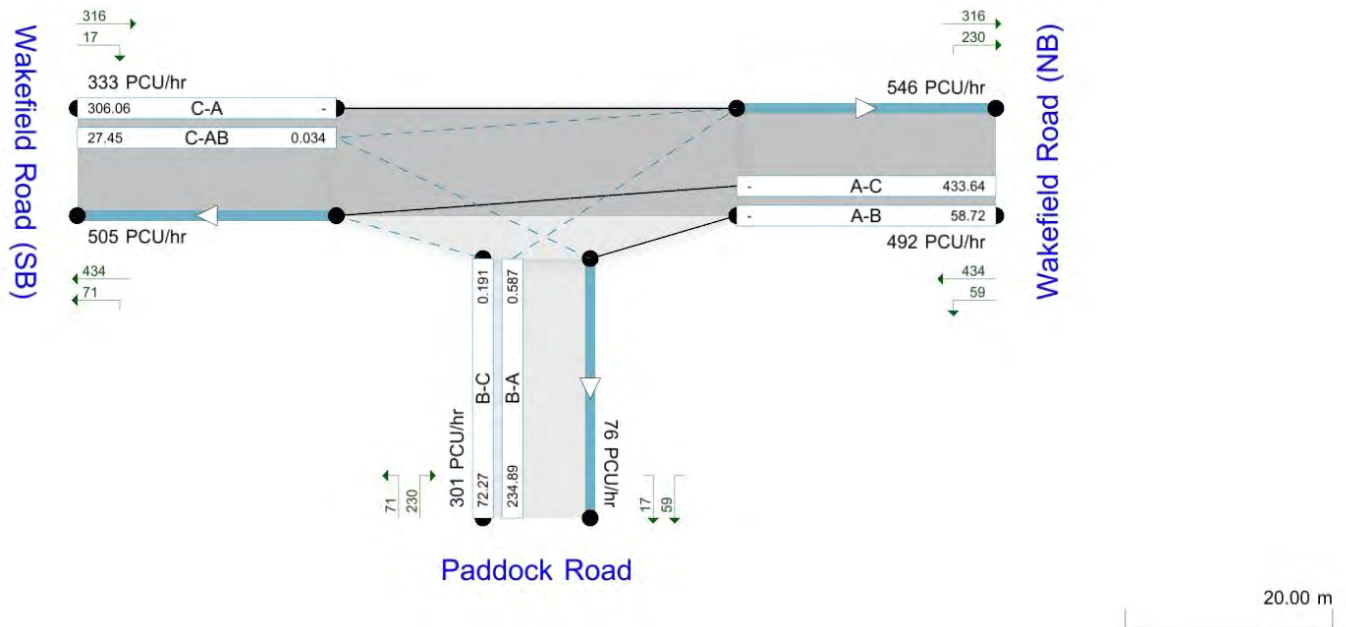
|                    |                                     |
|--------------------|-------------------------------------|
| <b>Title</b>       | Mapplewell, Barnsley                |
| <b>Location</b>    | Wakefield Road - Paddock Road       |
| <b>Site Number</b> |                                     |
| <b>Date</b>        | 29/11/2017                          |
| <b>Version</b>     |                                     |
| <b>Status</b>      | (new file)                          |
| <b>Identifier</b>  |                                     |
| <b>Client</b>      | Netherton Building and Construction |
| <b>Jobnumber</b>   | 14/114                              |
| <b>Enumerator</b>  | BRYANGHALLJTurner                   |
| <b>Description</b> |                                     |

## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | PCU                 | PCU                   | perHour    | s                   | -Min              | perMin              |



The junction diagram reflects the last run of ARCADY.

## Existing Layout - 2023 Predicted with Lidl, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Locked | Network Flow Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|--------|---------------------------------|----------------------------|
| Existing Layout | N/A                       |             |        | 100.000                         |                            |

## Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Single Time Segment Only | Locked |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|--------------------------|--------|
| 2023 Predicted with Lidl, PM | 2023 Predicted with Lidl | PM               |             | ONE HOUR             | 16:30                    | 18:00                     | 90                             | 15                        |                          |        |

# Junction Network

## Junctions

| Junction | Name        | Junction Type | Major Road Direction | Arm Order | Junction Delay (s) | Junction LOS |
|----------|-------------|---------------|----------------------|-----------|--------------------|--------------|
| 1        | Site Access | T-Junction    | Two-way              | A,B,C     | 240.92             | F            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Name                | Arm | Name                | Description | Arm Type |
|---------------------|-----|---------------------|-------------|----------|
| Wakefield Road (NB) | A   | Wakefield Road (NB) |             | Major    |
| Paddock Road        | B   | Paddock Road        |             | Minor    |
| Wakefield Road (SB) | C   | Wakefield Road (SB) |             | Major    |

## Major Arm Geometry

| Name                | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|---------------------|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| Wakefield Road (SB) | 7.90                     |                            | 0.00                                |                    | 2.20                     | 250.00                        | ✓       | 0.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Name         | Minor Arm Type      | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|--------------|---------------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| Paddock Road | One lane plus flare |                |                       |                        | 10.00                 | 6.00            | 4.40             | 3.00             | 3.00             |                       | 1.00               | 30                     | 80                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 1        | B-A    | 568.322            | 0.095         | 0.240         | 0.151         | 0.343         |
| 1        | B-C    | 639.353            | 0.090         | 0.227         | -             | -             |
| 1        | C-B    | 718.741            | 0.255         | 0.255         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Name                | Profile Type | Use Turning Counts | Average Demand Flow (PCU/hr) | Flow Scaling Factor (%) |
|---------------------|--------------|--------------------|------------------------------|-------------------------|
| Wakefield Road (NB) | ONE HOUR     | ✓                  | 654.00                       | 100.000                 |
| Paddock Road        | ONE HOUR     | ✓                  | 408.00                       | 100.000                 |
| Wakefield Road (SB) | ONE HOUR     | ✓                  | 443.00                       | 100.000                 |

## Turning Proportions

### Turning Counts / Proportions (PCU/hr) - Site Access (for whole period)

|      | To                  |                     |              |                     |
|------|---------------------|---------------------|--------------|---------------------|
|      |                     | Wakefield Road (NB) | Paddock Road | Wakefield Road (SB) |
| From | Wakefield Road (NB) | 0.000               | 78.000       | 576.000             |
|      | Paddock Road        | 312.000             | 0.000        | 96.000              |
|      | Wakefield Road (SB) | 420.000             | 23.000       | 0.000               |
|      |                     |                     |              |                     |

### Turning Proportions (PCU) - Site Access (for whole period)

|      | To                  |                     |              |                     |
|------|---------------------|---------------------|--------------|---------------------|
|      |                     | Wakefield Road (NB) | Paddock Road | Wakefield Road (SB) |
| From | Wakefield Road (NB) | 0.00                | 0.12         | 0.88                |
|      | Paddock Road        | 0.76                | 0.00         | 0.24                |
|      | Wakefield Road (SB) | 0.95                | 0.05         | 0.00                |
|      |                     |                     |              |                     |

## Vehicle Mix

### Average PCU Per Vehicle - Site Access (for whole period)

|      | To                  |                     |              |                     |
|------|---------------------|---------------------|--------------|---------------------|
|      |                     | Wakefield Road (NB) | Paddock Road | Wakefield Road (SB) |
| From | Wakefield Road (NB) | 1.000               | 1.000        | 1.016               |
|      | Paddock Road        | 1.000               | 1.000        | 1.000               |
|      | Wakefield Road (SB) | 1.022               | 1.000        | 1.000               |
|      |                     |                     |              |                     |

### Heavy Vehicle Percentages - Site Access (for whole period)

|      | To                  |                     |              |                     |
|------|---------------------|---------------------|--------------|---------------------|
|      |                     | Wakefield Road (NB) | Paddock Road | Wakefield Road (SB) |
| From | Wakefield Road (NB) | 0.0                 | 0.0          | 1.6                 |
|      | Paddock Road        | 0.0                 | 0.0          | 0.0                 |
|      | Wakefield Road (SB) | 2.2                 | 0.0          | 0.0                 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|--------|---------|---------------|-----------------|---------|
| B-C    | 1.12    | 324.97        | 8.90            | F       |
| B-A    | 1.11    | 247.35        | 24.26           | F       |
| C-AB   | 0.06    | 4.70          | 0.11            | A       |
| C-A    | -       | -             | -               | -       |
| A-B    | -       | -             | -               | -       |
| A-C    | -       | -             | -               | -       |

### Main Results for each time segment

#### Main results: (16:30-16:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 72.27                 | 71.35               | 0.00                       | 379.24            | 0.191 | 0.23            | 11.658    | B   |
| B-A    | 234.89                | 229.50              | 0.00                       | 399.83            | 0.587 | 1.35            | 20.548    | C   |
| C-AB   | 27.45                 | 27.26               | 0.00                       | 799.57            | 0.034 | 0.05            | 4.699     | A   |
| C-A    | 306.06                | 306.06              | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 58.72                 | 58.72               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 433.64                | 433.64              | 0.00                       | -                 | -     | -               | -         | -   |

#### Main results: (16:45-17:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 86.30                 | 85.22               | 0.00                       | 251.91            | 0.343 | 0.50            | 21.459    | C   |
| B-A    | 280.48                | 274.23              | 0.00                       | 362.30            | 0.774 | 2.91            | 38.337    | E   |
| C-AB   | 36.07                 | 35.99               | 0.00                       | 817.84            | 0.044 | 0.06            | 4.644     | A   |
| C-A    | 362.18                | 362.18              | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 70.12                 | 70.12               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 517.81                | 517.81              | 0.00                       | -                 | -     | -               | -         | -   |

#### Main results: (17:00-17:15)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 105.70                | 82.72               | 0.00                       | 94.40             | 1.120 | 6.25            | 195.891   | F   |
| B-A    | 343.52                | 297.31              | 0.00                       | 311.25            | 1.104 | 14.46           | 131.625   | F   |
| C-AB   | 53.77                 | 53.61               | 0.00                       | 855.79            | 0.063 | 0.10            | 4.535     | A   |
| C-A    | 433.98                | 433.98              | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 85.88                 | 85.88               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 634.19                | 634.19              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 105.70                | 95.11               | 0.00                       | 100.41            | 1.053 | 8.90            | 324.967   | F   |
| B-A    | 343.52                | 304.31              | 0.00                       | 308.39            | 1.114 | 24.26           | 247.350   | F   |
| C-AB   | 53.83                 | 53.82               | 0.00                       | 855.87            | 0.063 | 0.11            | 4.541     | A   |
| C-A    | 433.92                | 433.92              | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 85.88                 | 85.88               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 634.19                | 634.19              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 86.30                 | 101.62              | 0.00                       | 112.05            | 0.770 | 5.07            | 251.599   | F   |
| B-A    | 280.48                | 333.33              | 0.00                       | 347.07            | 0.808 | 11.05           | 197.899   | F   |
| C-AB   | 36.13                 | 36.29               | 0.00                       | 817.93            | 0.044 | 0.07            | 4.658     | A   |
| C-A    | 362.12                | 362.12              | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 70.12                 | 70.12               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 517.81                | 517.81              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (17:45-18:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 72.27                 | 91.32               | 0.00                       | 315.98            | 0.229 | 0.30            | 17.359    | C   |
| B-A    | 234.89                | 272.72              | 0.00                       | 393.24            | 0.597 | 1.59            | 37.882    | E   |
| C-AB   | 27.54                 | 27.61               | 0.00                       | 799.64            | 0.034 | 0.05            | 4.704     | A   |
| C-A    | 305.97                | 305.97              | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 58.72                 | 58.72               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 433.64                | 433.64              | 0.00                       | -                 | -     | -               | -         | -   |

| Junctions 8                                                                                                                                                                 |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| PICADY 8 - Priority Intersection Module                                                                                                                                     |  |  |  |  |
| Version: 8.0.5.523 [19102,19/06/2015]<br>© Copyright TRL Limited, 2018                                                                                                      |  |  |  |  |
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**Filename:** Wakefield Road - Paddock Road.arc8

**Path:** Y:\2014\14-101 to 14-125\14-114 Former William Freeman Works, Mapplewell\Technical\2017 Transport Assessment\Junction Modelling\Junctions 8\Wakefield Road - Paddock Road

**Report generation date:** 08/01/2018 08:28:12

## « Existing Layout - 2023 Predicted with Lidl, Saturday

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

## Summary of junction performance

|                                            | Saturday    |           |      |     |
|--------------------------------------------|-------------|-----------|------|-----|
|                                            | Queue (PCU) | Delay (s) | RFC  | LOS |
| Existing Layout - 2023 Predicted with Lidl |             |           |      |     |
| Stream B-C                                 | 0.04        | 12.34     | 0.04 | B   |
| Stream B-A                                 | 1.49        | 26.70     | 0.61 | D   |
| Stream C-AB                                | 0.03        | 4.57      | 0.02 | A   |
| Stream C-A                                 | -           | -         | -    | -   |
| Stream A-B                                 | -           | -         | -    | -   |
| Stream A-C                                 | -           | -         | -    | -   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2017 Existing, AM" model duration: 07:30 - 09:00  
 "D2 - 2017 Existing, PM" model duration: 16:30 - 18:00  
 "D3 - 2017 Existing, Saturday" model duration: 11:30 - 13:00  
 "D4 - 2023 Base, AM" model duration: 07:30 - 09:00  
 "D5 - 2023 Base, PM" model duration: 16:30 - 18:00  
 "D6 - 2023 Base, Saturday" model duration: 11:30 - 13:00  
 "D7 - 2023 Predicted, AM" model duration: 07:30 - 09:00  
 "D8 - 2023 Predicted, PM" model duration: 16:30 - 18:00  
 "D9 - 2023 Predicted, Saturday" model duration: 11:30 - 13:00  
 "D10 - 2023 Predicted with Lidl, AM" model duration: 07:30 - 09:00  
 "D11 - 2023 Predicted with Lidl, PM" model duration: 16:30 - 18:00  
 "D12 - 2023 Predicted with Lidl, Saturday " model duration: 11:30 - 13:00

Run using Junctions 8.0.5.523 at 08/01/2018 08:28:11

## File summary

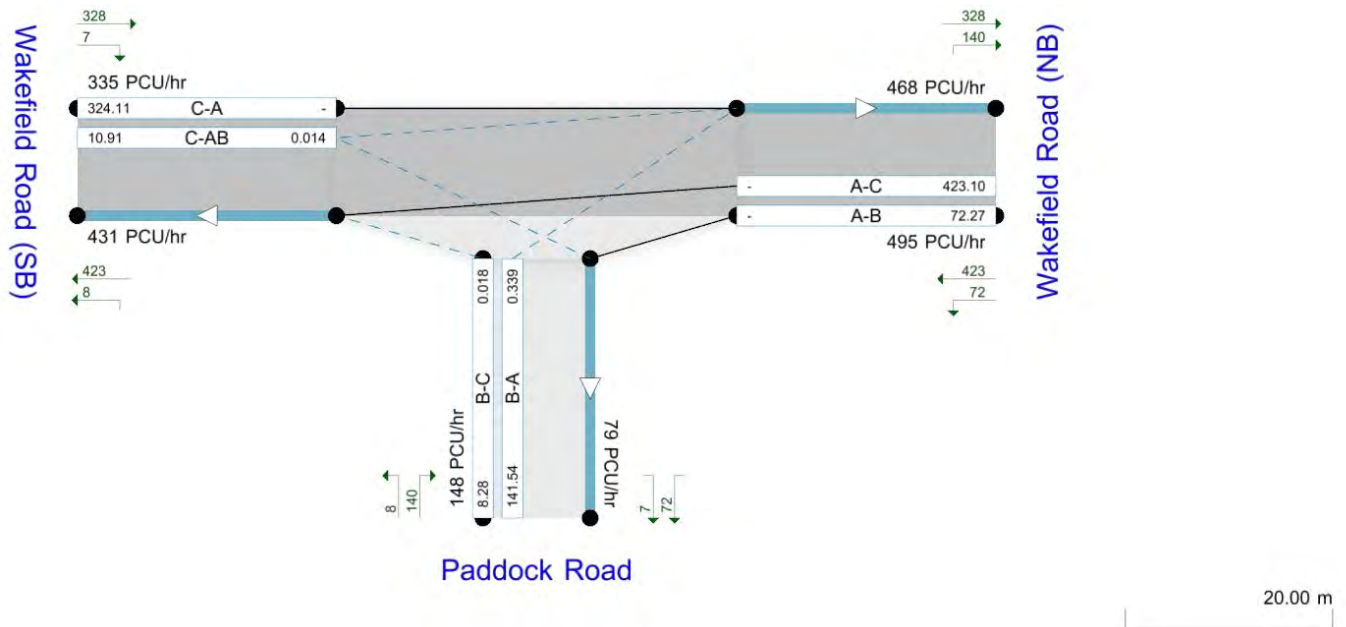
|                    |                                     |
|--------------------|-------------------------------------|
| <b>Title</b>       | Mapplewell, Barnsley                |
| <b>Location</b>    | Wakefield Road - Paddock Road       |
| <b>Site Number</b> |                                     |
| <b>Date</b>        | 29/11/2017                          |
| <b>Version</b>     |                                     |
| <b>Status</b>      | (new file)                          |
| <b>Identifier</b>  |                                     |
| <b>Client</b>      | Netherton Building and Construction |
| <b>Jobnumber</b>   | 14/114                              |
| <b>Enumerator</b>  | BRYANGHALLJTurner                   |
| <b>Description</b> |                                     |

## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | PCU                 | PCU                   | perHour    | s                   | -Min              | perMin              |



The junction diagram reflects the last run of ARCADY.

# Existing Layout - 2023 Predicted with Lidl, Saturday

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Locked | Network Flow Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|--------|---------------------------------|----------------------------|
| Existing Layout | N/A                       |             |        | 100.000                         |                            |

## Demand Set Details

| Name                               | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Single Time Segment Only | Locked |
|------------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|--------------------------|--------|
| 2023 Predicted with Lidl, Saturday | 2023 Predicted with Lidl | Saturday         |             | ONE HOUR             | 11:30                    | 13:00                     | 90                             | 15                        |                          |        |

# Junction Network

## Junctions

| Junction | Name        | Junction Type | Major Road Direction | Arm Order | Junction Delay (s) | Junction LOS |
|----------|-------------|---------------|----------------------|-----------|--------------------|--------------|
| 1        | Site Access | T-Junction    | Two-way              | A,B,C     | 24.27              | C            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Name                | Arm | Name                | Description | Arm Type |
|---------------------|-----|---------------------|-------------|----------|
| Wakefield Road (NB) | A   | Wakefield Road (NB) |             | Major    |
| Paddock Road        | B   | Paddock Road        |             | Minor    |
| Wakefield Road (SB) | C   | Wakefield Road (SB) |             | Major    |

## Major Arm Geometry

| Name                | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|---------------------|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| Wakefield Road (SB) | 7.90                     |                            | 0.00                                |                    | 2.20                     | 250.00                        | ✓       | 0.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Name         | Minor Arm Type      | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|--------------|---------------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| Paddock Road | One lane plus flare |                |                       |                        | 10.00                 | 6.00            | 4.40             | 3.00             | 3.00             |                       | 1.00               | 30                     | 80                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 1        | B-A    | 581.016            | 0.097         | 0.245         | 0.154         | 0.351         |
| 1        | B-C    | 612.263            | 0.086         | 0.218         | -             | -             |
| 1        | C-B    | 718.741            | 0.255         | 0.255         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Name                | Profile Type | Use Turning Counts | Average Demand Flow (PCU/hr) | Flow Scaling Factor (%) |
|---------------------|--------------|--------------------|------------------------------|-------------------------|
| Wakefield Road (NB) | ONE HOUR     | ✓                  | 658.00                       | 100.000                 |
| Paddock Road        | ONE HOUR     | ✓                  | 199.00                       | 100.000                 |
| Wakefield Road (SB) | ONE HOUR     | ✓                  | 445.00                       | 100.000                 |

## Turning Proportions

### Turning Counts / Proportions (PCU/hr) - Site Access (for whole period)

|      | To                  |                     |              |                     |
|------|---------------------|---------------------|--------------|---------------------|
|      |                     | Wakefield Road (NB) | Paddock Road | Wakefield Road (SB) |
| From | Wakefield Road (NB) | 0.000               | 96.000       | 562.000             |
|      | Paddock Road        | 188.000             | 0.000        | 11.000              |
|      | Wakefield Road (SB) | 436.000             | 9.000        | 0.000               |
|      |                     |                     |              |                     |

### Turning Proportions (PCU) - Site Access (for whole period)

|      | To                  |                     |              |                     |
|------|---------------------|---------------------|--------------|---------------------|
|      |                     | Wakefield Road (NB) | Paddock Road | Wakefield Road (SB) |
| From | Wakefield Road (NB) | 0.00                | 0.15         | 0.85                |
|      | Paddock Road        | 0.94                | 0.00         | 0.06                |
|      | Wakefield Road (SB) | 0.98                | 0.02         | 0.00                |
|      |                     |                     |              |                     |

## Vehicle Mix

### Average PCU Per Vehicle - Site Access (for whole period)

|      | To                  |                     |              |                     |
|------|---------------------|---------------------|--------------|---------------------|
|      |                     | Wakefield Road (NB) | Paddock Road | Wakefield Road (SB) |
| From | Wakefield Road (NB) | 1.000               | 1.000        | 1.016               |
|      | Paddock Road        | 1.000               | 1.000        | 1.000               |
|      | Wakefield Road (SB) | 1.022               | 1.000        | 1.000               |
|      |                     |                     |              |                     |

### Heavy Vehicle Percentages - Site Access (for whole period)

| From | To                  |                     |              |                     |
|------|---------------------|---------------------|--------------|---------------------|
|      |                     | Wakefield Road (NB) | Paddock Road | Wakefield Road (SB) |
|      | Wakefield Road (NB) | 0.0                 | 0.0          | 1.6                 |
|      | Paddock Road        | 0.0                 | 0.0          | 0.0                 |
|      | Wakefield Road (SB) | 2.2                 | 0.0          | 0.0                 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|--------|---------|---------------|-----------------|---------|
| B-C    | 0.04    | 12.34         | 0.04            | B       |
| B-A    | 0.61    | 26.70         | 1.49            | D       |
| C-AB   | 0.02    | 4.57          | 0.03            | A       |
| C-A    | -       | -             | -               | -       |
| A-B    | -       | -             | -               | -       |
| A-C    | -       | -             | -               | -       |

### Main Results for each time segment

#### Main results: (11:30-11:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 8.28                  | 8.21                | 0.00                       | 452.81            | 0.018 | 0.02            | 8.096     | A   |
| B-A    | 141.54                | 139.53              | 0.00                       | 417.10            | 0.339 | 0.50            | 12.879    | B   |
| C-AB   | 10.91                 | 10.85               | 0.00                       | 806.42            | 0.014 | 0.02            | 4.562     | A   |
| C-A    | 324.11                | 324.11              | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 72.27                 | 72.27               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 423.10                | 423.10              | 0.00                       | -                 | -     | -               | -         | -   |

#### Main results: (11:45-12:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 9.89                  | 9.86                | 0.00                       | 403.18            | 0.025 | 0.02            | 9.153     | A   |
| B-A    | 169.01                | 167.99              | 0.00                       | 385.24            | 0.439 | 0.76            | 16.489    | C   |
| C-AB   | 14.37                 | 14.34               | 0.00                       | 825.94            | 0.017 | 0.02            | 4.475     | A   |
| C-A    | 385.68                | 385.68              | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 86.30                 | 86.30               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 505.23                | 505.23              | 0.00                       | -                 | -     | -               | -         | -   |

#### Main results: (12:00-12:15)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 12.11                 | 12.05               | 0.00                       | 308.06            | 0.039 | 0.04            | 12.158    | B   |
| B-A    | 206.99                | 204.25              | 0.00                       | 341.15            | 0.607 | 1.44            | 25.783    | D   |
| C-AB   | 20.12                 | 20.08               | 0.00                       | 853.46            | 0.024 | 0.03            | 4.364     | A   |
| C-A    | 469.83                | 469.83              | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 105.70                | 105.70              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 618.77                | 618.77              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (12:15-12:30)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 12.11                 | 12.11               | 0.00                       | 303.80            | 0.040 | 0.04            | 12.341    | B   |
| B-A    | 206.99                | 206.81              | 0.00                       | 341.14            | 0.607 | 1.49            | 26.698    | D   |
| C-AB   | 20.13                 | 20.13               | 0.00                       | 853.47            | 0.024 | 0.03            | 4.367     | A   |
| C-A    | 469.82                | 469.82              | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 105.70                | 105.70              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 618.77                | 618.77              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (12:30-12:45)

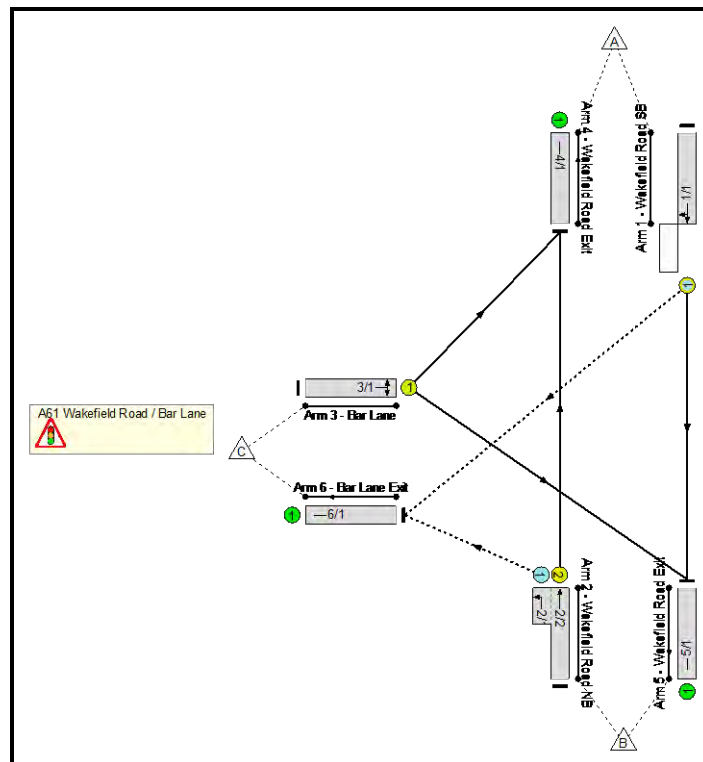
| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 9.89                  | 9.95                | 0.00                       | 399.36            | 0.025 | 0.03            | 9.247     | A   |
| B-A    | 169.01                | 171.74              | 0.00                       | 385.24            | 0.439 | 0.81            | 17.066    | C   |
| C-AB   | 14.38                 | 14.41               | 0.00                       | 825.96            | 0.017 | 0.02            | 4.482     | A   |
| C-A    | 385.67                | 385.67              | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 86.30                 | 86.30               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 505.23                | 505.23              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (12:45-13:00)

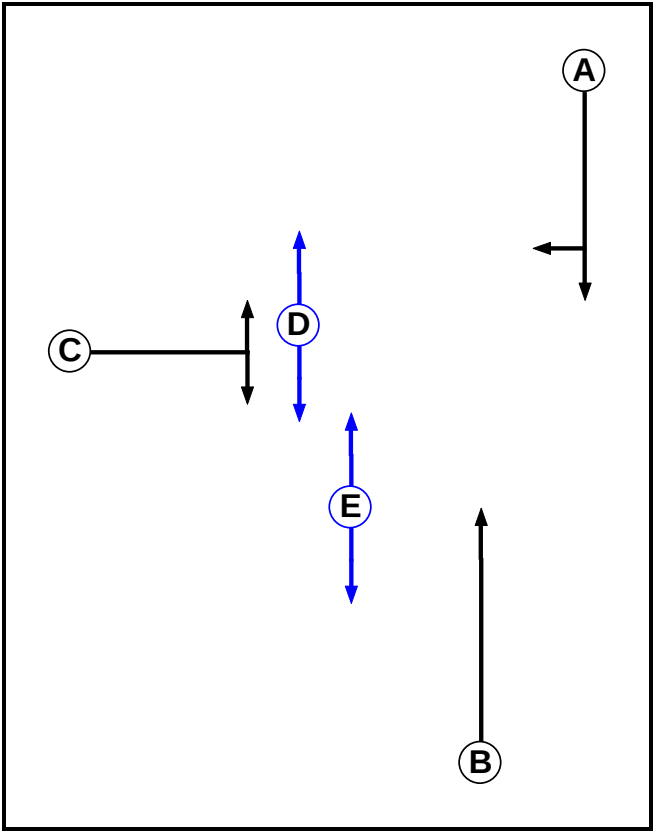
| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-C    | 8.28                  | 8.31                | 0.00                       | 450.59            | 0.018 | 0.02            | 8.141     | A   |
| B-A    | 141.54                | 142.66              | 0.00                       | 417.09            | 0.339 | 0.52            | 13.170    | B   |
| C-AB   | 10.94                 | 10.96               | 0.00                       | 806.44            | 0.014 | 0.02            | 4.565     | A   |
| C-A    | 324.08                | 324.08              | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 72.27                 | 72.27               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 423.10                | 423.10              | 0.00                       | -                 | -     | -               | -         | -   |

**Full Input Data And Results****User and Project Details**

|                   |                                 |
|-------------------|---------------------------------|
| <b>Project:</b>   | Wakefield Road, Mapplewell      |
| <b>Title:</b>     | 2017 Existing                   |
| <b>Location:</b>  |                                 |
| <b>File name:</b> | Wakefield Road - Bar Lane.lsg3x |
| <b>Author:</b>    | John Turner                     |
| <b>Company:</b>   | Bryan G Hall                    |
| <b>Address:</b>   |                                 |
| <b>Notes:</b>     | Wakefield Road/Bar Lane         |

**Network Layout Diagram**

Phase Diagram



Phase Input Data

| Phase Name | Phase Type | Assoc. Phase | Street Min | Cont Min |
|------------|------------|--------------|------------|----------|
| A          | Traffic    |              | 7          | 7        |
| B          | Traffic    |              | 7          | 7        |
| C          | Traffic    |              | 7          | 7        |
| D          | Pedestrian |              | 6          | 6        |
| E          | Pedestrian |              | 6          | 6        |

Phase Intergreens Matrix

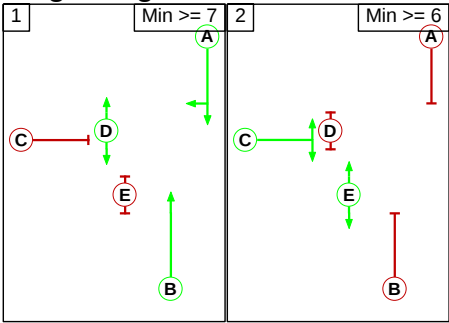
|                   |   | Starting Phase |   |   |   |   |  |
|-------------------|---|----------------|---|---|---|---|--|
| Terminating Phase |   | A              | B | C | D | E |  |
|                   | A | -              | - | 5 | - | 9 |  |
|                   | B | -              | - | 6 | - | - |  |
|                   | C | 5              | 5 | - | 5 | - |  |
|                   | D | -              | - | 7 | - | - |  |
|                   | E | 8              | - | - | - | - |  |

Phases in Stage

| Stage No. | Phases in Stage |
|-----------|-----------------|
| 1         | A B D           |
| 2         | C E             |

Full Input Data And Results

Stage Diagram



Phase Delays

| Term. Stage                       | Start Stage | Phase | Type | Value | Cont value |
|-----------------------------------|-------------|-------|------|-------|------------|
| There are no Phase Delays defined |             |       |      |       |            |

Prohibited Stage Change

| From Stage | To Stage |   |
|------------|----------|---|
|            | 1        | 2 |
|            | 1        | 9 |
| 2          | 8        |   |

Full Input Data And Results

**Give-Way Lane Input Data**

| Junction: A61 Wakefield Road / Bar Lane |             |                                   |                                   |               |                  |                |                          |                            |      |                        |                               |
|-----------------------------------------|-------------|-----------------------------------|-----------------------------------|---------------|------------------|----------------|--------------------------|----------------------------|------|------------------------|-------------------------------|
| Lane                                    | Movement    | Max Flow when Giving Way (PCU/Hr) | Min Flow when Giving Way (PCU/Hr) | Opposing Lane | Opp. Lane Coeff. | Opp. Mvmnts.   | Right Turn Storage (PCU) | Non-Blocking Storage (PCU) | RTF  | Right Turn Move up (s) | Max Turns in Intergreen (PCU) |
| 1/1<br>(Wakefield Road SB)              | 6/1 (Right) | 1439                              | 0                                 | 2/2           | 1.09             | All            | 4.00                     | 4.00                       | 0.50 | 4                      | 2.00                          |
| 2/1<br>(Wakefield Road NB)              | 6/1 (Left)  | 1439                              | 0                                 | 1/1           | 1.09             | To 6/1 (Right) | -                        | -                          | -    | -                      | -                             |

Full Input Data And Results

Lane Input Data

Junction: A61 Wakefield Road / Bar Lane

| Lane                         | Lane Type | Phases | Start Disp. | End Disp. | Physical Length (PCU) | Sat Flow Type | Def User Saturation Flow (PCU/Hr) | Lane Width (m) | Gradient | Nearside Lane | Turns       | Turning Radius (m) |
|------------------------------|-----------|--------|-------------|-----------|-----------------------|---------------|-----------------------------------|----------------|----------|---------------|-------------|--------------------|
| 1/1<br>(Wakefield Road SB)   | O         | A      | 2           | 3         | 60.0                  | Geom          | -                                 | 3.40           | 0.00     | Y             | Arm 5 Ahead | Inf                |
| 2/1<br>(Wakefield Road NB)   | O         |        | 2           | 3         | 3.0                   | Geom          | -                                 | 4.00           | 0.00     | Y             | Arm 6 Right | 12.50              |
|                              |           |        |             |           |                       |               |                                   |                |          |               | Arm 6 Left  | 100.00             |
| 2/2<br>(Wakefield Road NB)   | U         | B      | 2           | 3         | 60.0                  | Geom          | -                                 | 3.80           | 0.00     | Y             | Arm 4 Ahead | Inf                |
| 3/1<br>(Bar Lane)            | U         | C      | 2           | 3         | 60.0                  | Geom          | -                                 | 3.70           | 0.00     | Y             | Arm 4 Left  | 12.50              |
|                              |           |        |             |           |                       |               |                                   |                |          |               | Arm 5 Right | 8.00               |
| 4/1<br>(Wakefield Road Exit) | U         |        | 2           | 3         | 60.0                  | Inf           | -                                 | -              | -        | -             | -           | -                  |
| 5/1<br>(Wakefield Road Exit) | U         |        | 2           | 3         | 60.0                  | Inf           | -                                 | -              | -        | -             | -           | -                  |
| 6/1<br>(Bar Lane Exit)       | U         |        | 2           | 3         | 60.0                  | Inf           | -                                 | -              | -        | -             | -           | -                  |

Traffic Flow Groups

| Flow Group                              | Start Time | End Time | Duration | Formula |
|-----------------------------------------|------------|----------|----------|---------|
| 10: '2023 Predicted with Lidl AM'       | 07:45      | 08:45    | 01:00    |         |
| 11: '2023 Predicted with Lidl PM'       | 16:45      | 17:45    | 01:00    |         |
| 12: '2023 Predicted with Lidl Saturday' | 11:45      | 12:45    | 01:00    |         |

Scenario 10: '2023 Predicted with Lidl AM' (FG10: '2023 Predicted with Lidl AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

|        | Destination |     |      |      |      |
|--------|-------------|-----|------|------|------|
| Origin | A           | B   | C    | Tot. |      |
|        | A           | 0   | 584  | 23   | 607  |
|        | B           | 736 | 0    | 423  | 1159 |
|        | C           | 59  | 553  | 0    | 612  |
|        | Tot.        | 795 | 1137 | 446  | 2378 |

Traffic Lane Flows

| Lane                                    | Scenario 10:<br>2023 Predicted with<br>Lidl AM |
|-----------------------------------------|------------------------------------------------|
| Junction: A61 Wakefield Road / Bar Lane |                                                |
| 1/1                                     | 607                                            |
| 2/1<br>(short)                          | 423                                            |
| 2/2<br>(with short)                     | 1159(In)<br>736(Out)                           |
| 3/1                                     | 612                                            |
| 4/1                                     | 795                                            |
| 5/1                                     | 1137                                           |
| 6/1                                     | 446                                            |

Lane Saturation Flows

| Junction: A61 Wakefield Road / Bar Lane |                          |          |               |               |                    |               |                   |                          |
|-----------------------------------------|--------------------------|----------|---------------|---------------|--------------------|---------------|-------------------|--------------------------|
| Lane                                    | Lane Width (m)           | Gradient | Nearside Lane | Allowed Turns | Turning Radius (m) | Turning Prop. | Sat Flow (PCU/Hr) | Flared Sat Flow (PCU/Hr) |
| 1/1<br>(Wakefield Road SB)              | 3.40                     | 0.00     | Y             | Arm 5 Ahead   | Inf                | 96.2 %        | 1946              | 1946                     |
|                                         |                          |          |               | Arm 6 Right   | 12.50              | 3.8 %         |                   |                          |
| 2/1<br>(Wakefield Road NB)              | 4.00                     | 0.00     | Y             | Arm 6 Left    | 100.00             | 100.0 %       | 1985              | 1985                     |
| 2/2<br>(Wakefield Road NB)              | 3.80                     | 0.00     | Y             | Arm 4 Ahead   | Inf                | 100.0 %       | 1995              | 1995                     |
| 3/1<br>(Bar Lane)                       | 3.70                     | 0.00     | Y             | Arm 4 Left    | 12.50              | 9.6 %         | 1681              | 1681                     |
|                                         |                          |          |               | Arm 5 Right   | 8.00               | 90.4 %        |                   |                          |
| 4/1<br>(Wakefield Road Exit Lane 1)     | Infinite Saturation Flow |          |               |               |                    |               | Inf               | Inf                      |
| 5/1<br>(Wakefield Road Exit Lane 1)     | Infinite Saturation Flow |          |               |               |                    |               | Inf               | Inf                      |
| 6/1<br>(Bar Lane Exit Lane 1)           | Infinite Saturation Flow |          |               |               |                    |               | Inf               | Inf                      |

Scenario 11: '2023 Predicted with Lidl PM' (FG11: '2023 Predicted with Lidl PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

|        |      | Destination |      |     |      |
|--------|------|-------------|------|-----|------|
| Origin | A    | A           | B    | C   | Tot. |
|        | A    | 0           | 712  | 54  | 766  |
|        | B    | 656         | 0    | 613 | 1269 |
|        | C    | 42          | 484  | 0   | 526  |
|        | Tot. | 698         | 1196 | 667 | 2561 |

Traffic Lane Flows

| Lane                                    | Scenario 11:<br>2023 Predicted with<br>Lidl PM |
|-----------------------------------------|------------------------------------------------|
| Junction: A61 Wakefield Road / Bar Lane |                                                |
| 1/1                                     | 766                                            |
| 2/1<br>(short)                          | 613                                            |
| 2/2<br>(with short)                     | 1269(In)<br>656(Out)                           |
| 3/1                                     | 526                                            |
| 4/1                                     | 698                                            |
| 5/1                                     | 1196                                           |
| 6/1                                     | 667                                            |

Lane Saturation Flows

| Junction: A61 Wakefield Road / Bar Lane |                          |          |               |               |                    |               |                   |                          |  |  |
|-----------------------------------------|--------------------------|----------|---------------|---------------|--------------------|---------------|-------------------|--------------------------|--|--|
| Lane                                    | Lane Width (m)           | Gradient | Nearside Lane | Allowed Turns | Turning Radius (m) | Turning Prop. | Sat Flow (PCU/Hr) | Flared Sat Flow (PCU/Hr) |  |  |
| 1/1<br>(Wakefield Road SB)              | 3.40                     | 0.00     | Y             | Arm 5 Ahead   | Inf                | 93.0 %        | 1939              | 1939                     |  |  |
|                                         |                          |          |               | Arm 6 Right   | 12.50              | 7.0 %         |                   |                          |  |  |
| 2/1<br>(Wakefield Road NB)              | 4.00                     | 0.00     | Y             | Arm 6 Left    | 100.00             | 100.0 %       | 1985              | 1985                     |  |  |
| 2/2<br>(Wakefield Road NB)              | 3.80                     | 0.00     | Y             | Arm 4 Ahead   | Inf                | 100.0 %       | 1995              | 1995                     |  |  |
| 3/1<br>(Bar Lane)                       | 3.70                     | 0.00     | Y             | Arm 4 Left    | 12.50              | 8.0 %         | 1679              | 1679                     |  |  |
|                                         |                          |          |               | Arm 5 Right   | 8.00               | 92.0 %        |                   |                          |  |  |
| 4/1<br>(Wakefield Road Exit Lane 1)     | Infinite Saturation Flow |          |               |               |                    |               | Inf               | Inf                      |  |  |
| 5/1<br>(Wakefield Road Exit Lane 1)     | Infinite Saturation Flow |          |               |               |                    |               | Inf               | Inf                      |  |  |
| 6/1<br>(Bar Lane Exit Lane 1)           | Infinite Saturation Flow |          |               |               |                    |               | Inf               | Inf                      |  |  |

Scenario 12: '2023 Predicted with Lidl Saturday' (FG12: '2023 Predicted with Lidl Saturday', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

|        | Destination |     |      |     |      |
|--------|-------------|-----|------|-----|------|
| Origin |             | A   | B    | C   | Tot. |
|        | A           | 0   | 593  | 53  | 646  |
|        | B           | 633 | 0    | 517 | 1150 |
|        | C           | 48  | 474  | 0   | 522  |
|        | Tot.        | 681 | 1067 | 570 | 2318 |

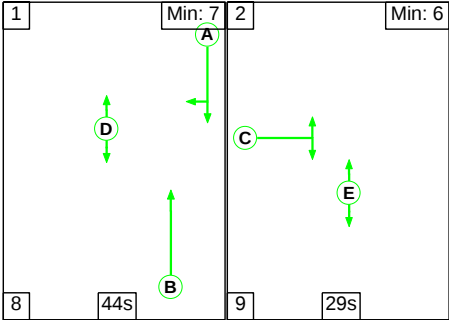
Traffic Lane Flows

| Lane                                    | Scenario 12:<br>2023 Predicted with<br>Lidl Saturday |
|-----------------------------------------|------------------------------------------------------|
| Junction: A61 Wakefield Road / Bar Lane |                                                      |
| 1/1                                     | 646                                                  |
| 2/1<br>(short)                          | 517                                                  |
| 2/2<br>(with short)                     | 1150(In)<br>633(Out)                                 |
| 3/1                                     | 522                                                  |
| 4/1                                     | 681                                                  |
| 5/1                                     | 1067                                                 |
| 6/1                                     | 570                                                  |

Lane Saturation Flows

| Junction: A61 Wakefield Road / Bar Lane |                          |          |               |               |                    |               |                   |                          |
|-----------------------------------------|--------------------------|----------|---------------|---------------|--------------------|---------------|-------------------|--------------------------|
| Lane                                    | Lane Width (m)           | Gradient | Nearside Lane | Allowed Turns | Turning Radius (m) | Turning Prop. | Sat Flow (PCU/Hr) | Flared Sat Flow (PCU/Hr) |
| 1/1<br>(Wakefield Road SB)              | 3.40                     | 0.00     | Y             | Arm 5 Ahead   | Inf                | 91.8 %        | 1936              | 1936                     |
|                                         |                          |          |               | Arm 6 Right   | 12.50              | 8.2 %         |                   |                          |
| 2/1<br>(Wakefield Road NB)              | 4.00                     | 0.00     | Y             | Arm 6 Left    | 100.00             | 100.0 %       | 1985              | 1985                     |
| 2/2<br>(Wakefield Road NB)              | 3.80                     | 0.00     | Y             | Arm 4 Ahead   | Inf                | 100.0 %       | 1995              | 1995                     |
| 3/1<br>(Bar Lane)                       | 3.70                     | 0.00     | Y             | Arm 4 Left    | 12.50              | 9.2 %         | 1680              | 1680                     |
|                                         |                          |          |               | Arm 5 Right   | 8.00               | 90.8 %        |                   |                          |
| 4/1<br>(Wakefield Road Exit Lane 1)     | Infinite Saturation Flow |          |               |               |                    |               | Inf               | Inf                      |
| 5/1<br>(Wakefield Road Exit Lane 1)     | Infinite Saturation Flow |          |               |               |                    |               | Inf               | Inf                      |
| 6/1<br>(Bar Lane Exit Lane 1)           | Infinite Saturation Flow |          |               |               |                    |               | Inf               | Inf                      |

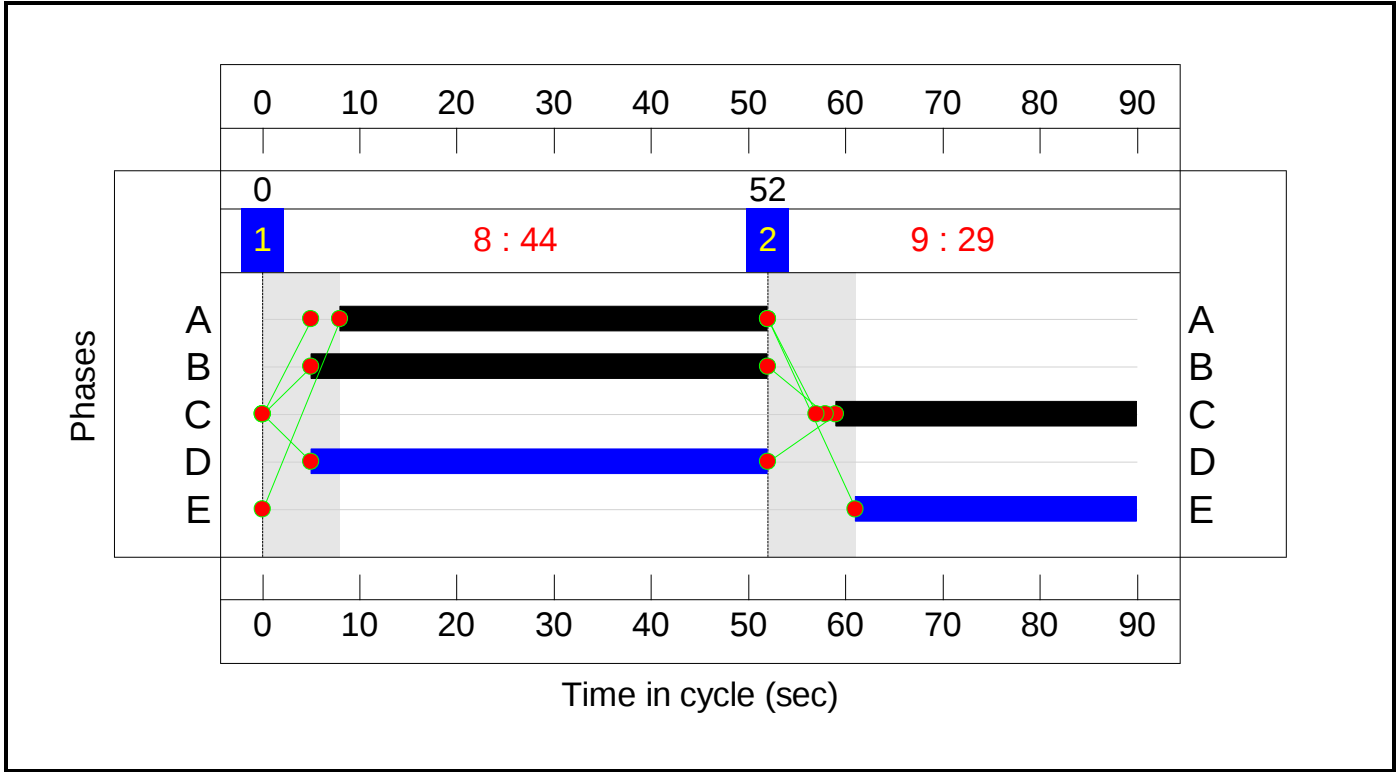
Scenario 10: '2023 Predicted with Lidl AM' (FG10: '2023 Predicted with Lidl AM', Plan 1: 'Network Control Plan 1')  
Stage Sequence Diagram



Stage Timings

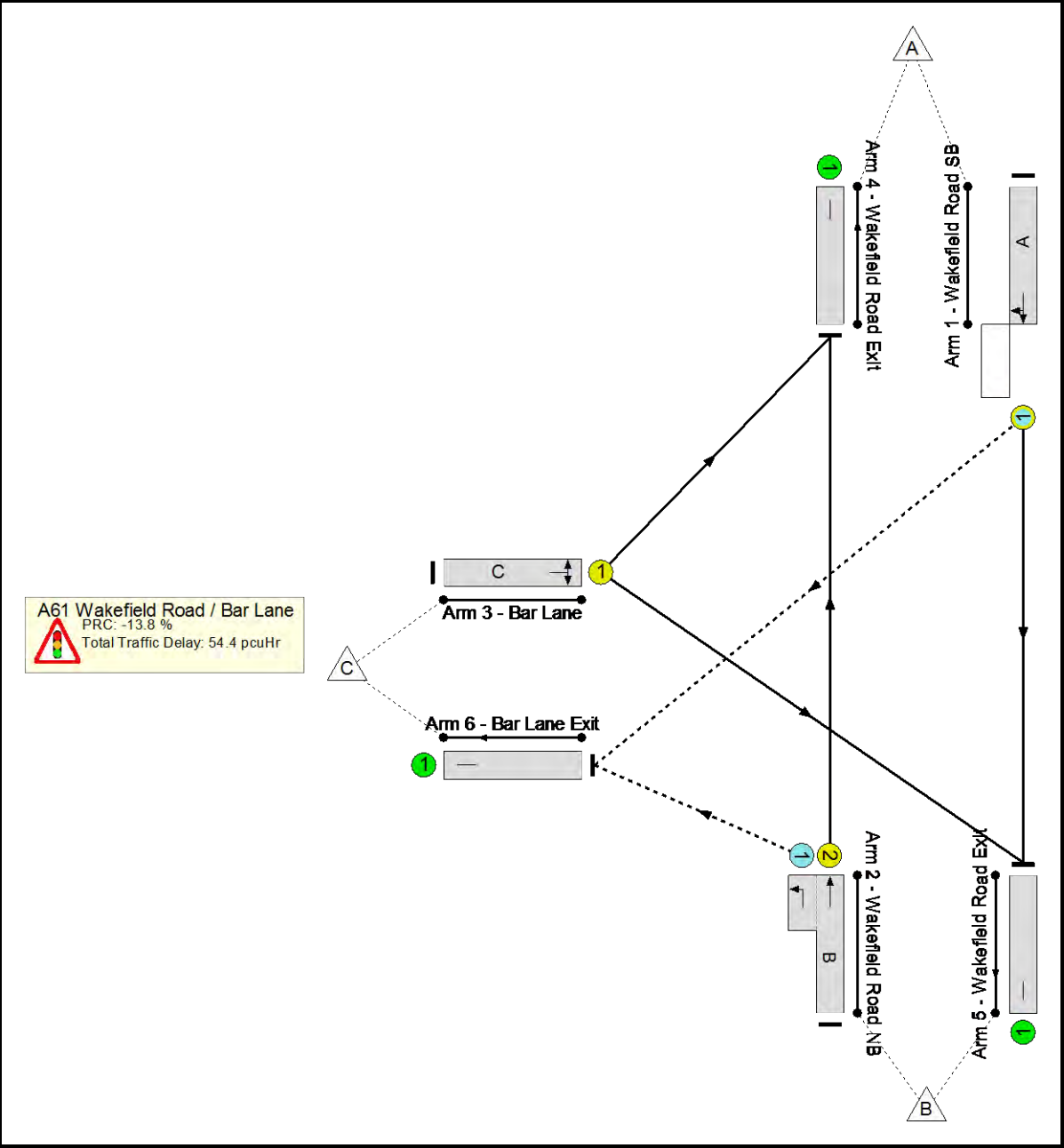
| Stage        | 1  | 2  |
|--------------|----|----|
| Duration     | 44 | 29 |
| Change Point | 0  | 52 |

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



## Full Input Data And Results

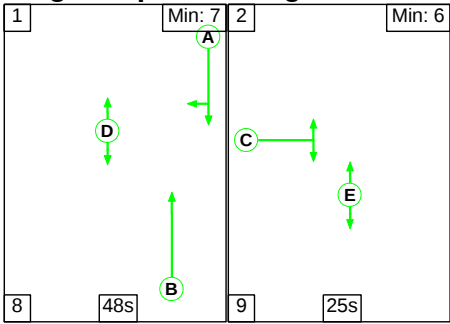
## Network Results

| Item                                                                                                                                                                                                                                                                                 | Lane Description              | Lane Type     | Controller Stream     | Position In Filtered Route   | Full Phase                  | Arrow Phase           | Num Greens                   | Total Green (s)                    | Arrow Green (s)     | Demand Flow (pcu)         | Sat Flow (pcu/Hr)                | Capacity (pcu)             | Deg Sat (%)          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|-----------------------|------------------------------|-----------------------------|-----------------------|------------------------------|------------------------------------|---------------------|---------------------------|----------------------------------|----------------------------|----------------------|
| Network: 2017 Existing                                                                                                                                                                                                                                                               | -                             | -             | N/A                   | -                            | -                           |                       | -                            | -                                  | -                   | -                         | -                                | -                          | 102.4%               |
| A61 Wakefield Road / Bar Lane                                                                                                                                                                                                                                                        | -                             | -             | N/A                   | -                            | -                           |                       | -                            | -                                  | -                   | -                         | -                                | -                          | 102.4%               |
| 1/1                                                                                                                                                                                                                                                                                  | Wakefield Road SB Ahead Right | O             | N/A                   | N/A                          | A                           |                       | 1                            | 44                                 | -                   | 607                       | 1946                             | 973                        | 62.4%                |
| 2/2+2/1                                                                                                                                                                                                                                                                              | Wakefield Road NB Ahead Left  | U+O           | N/A                   | N/A                          | B -                         |                       | 1                            | 47                                 | -                   | 1159                      | 1995:1985                        | 1140                       | 101.6%               |
| 3/1                                                                                                                                                                                                                                                                                  | Bar Lane Left Right           | U             | N/A                   | N/A                          | C                           |                       | 1                            | 31                                 | -                   | 612                       | 1681                             | 598                        | 102.4%               |
| Item                                                                                                                                                                                                                                                                                 | Arriving (pcu)                | Leaving (pcu) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Uniform Delay (pcuHr) | Rand + Oversat Delay (pcuHr) | Storage Area Uniform Delay (pcuHr) | Total Delay (pcuHr) | Av. Delay Per PCU (s/pcu) | Max. Back of Uniform Queue (pcu) | Rand + Oversat Queue (pcu) | Mean Max Queue (pcu) |
| Network: 2017 Existing                                                                                                                                                                                                                                                               | -                             | -             | 386                   | 53                           | 1                           | 14.8                  | 39.6                         | 0.0                                | 54.4                | -                         | -                                | -                          | -                    |
| A61 Wakefield Road / Bar Lane                                                                                                                                                                                                                                                        | -                             | -             | 386                   | 53                           | 1                           | 14.8                  | 39.6                         | 0.0                                | 54.4                | -                         | -                                | -                          | -                    |
| 1/1                                                                                                                                                                                                                                                                                  | 607                           | 607           | 22                    | 0                            | 1                           | 2.8                   | 0.8                          | 0.0                                | 3.6                 | 21.4                      | 11.0                             | 0.8                        | 11.8                 |
| 2/2+2/1                                                                                                                                                                                                                                                                              | 1159                          | 1140          | 363                   | 53                           | 0                           | 6.3                   | 22.3                         | -                                  | 28.6                | 88.9                      | 29.4                             | 22.3                       | 51.7                 |
| 3/1                                                                                                                                                                                                                                                                                  | 612                           | 598           | -                     | -                            | -                           | 5.7                   | 16.5                         | -                                  | 22.2                | 130.3                     | 15.7                             | 16.5                       | 32.1                 |
| C1                      PRC for Signalled Lanes (%):    -13.8                      Total Delay for Signalled Lanes (pcuHr):    54.38                      Cycle Time (s):    90<br>PRC Over All Lanes (%):    -13.8                      Total Delay Over All Lanes(pcuHr):    54.38 |                               |               |                       |                              |                             |                       |                              |                                    |                     |                           |                                  |                            |                      |

Full Input Data And Results

**Scenario 11: '2023 Predicted with Lidl PM'** (FG11: '2023 Predicted with Lidl PM', Plan 1: 'Network Control Plan 1')

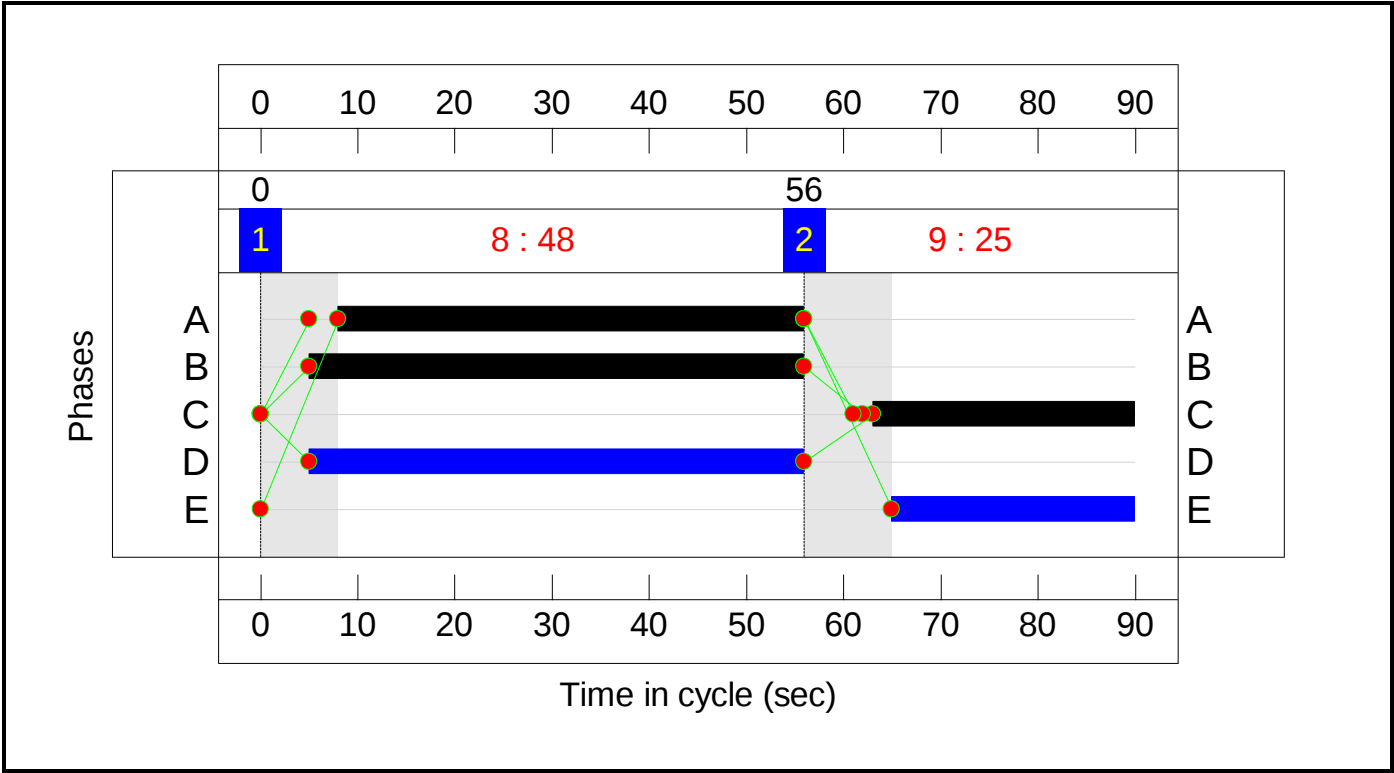
**Stage Sequence Diagram**



**Stage Timings**

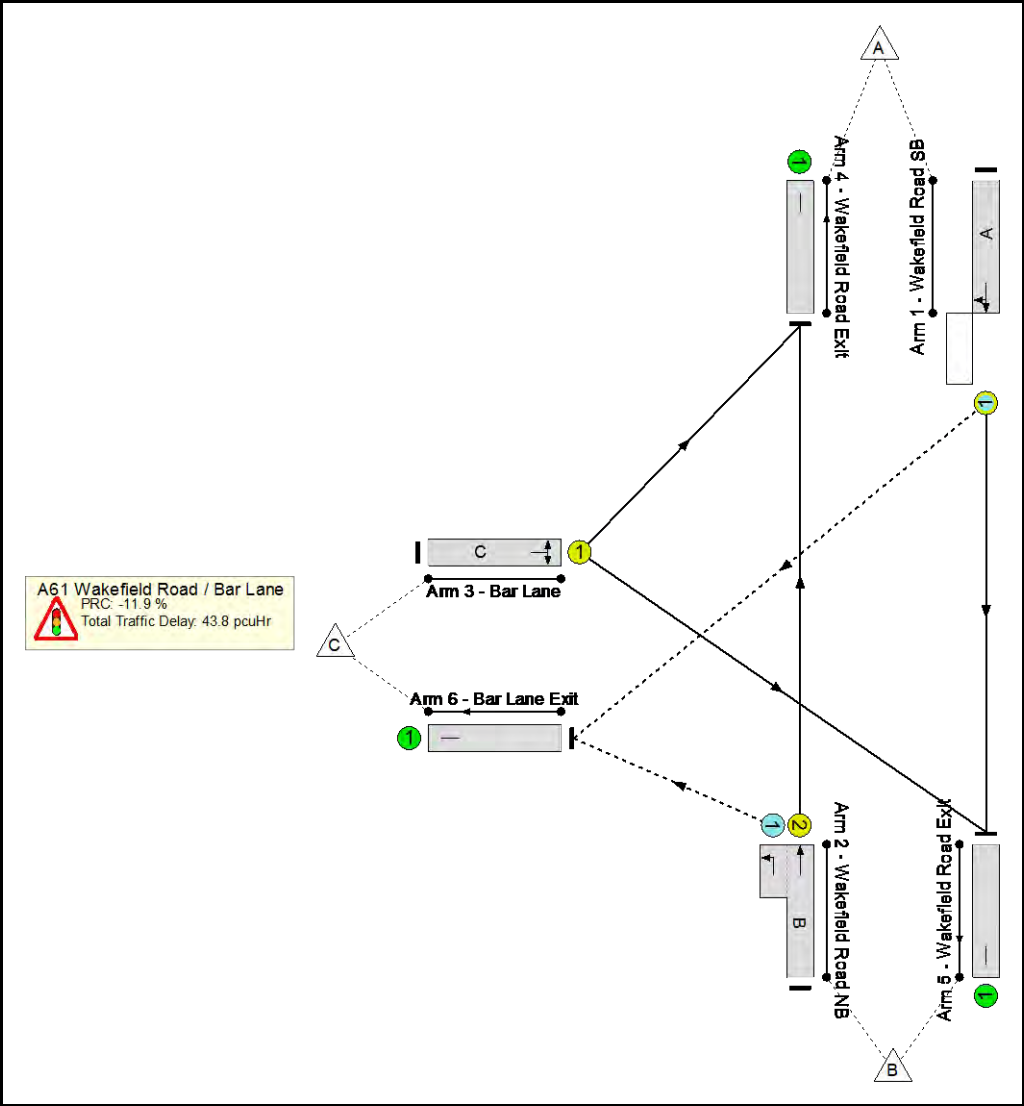
| Stage        | 1  | 2  |
|--------------|----|----|
| Duration     | 48 | 25 |
| Change Point | 0  | 56 |

**Signal Timings Diagram**



Full Input Data And Results

Network Layout Diagram

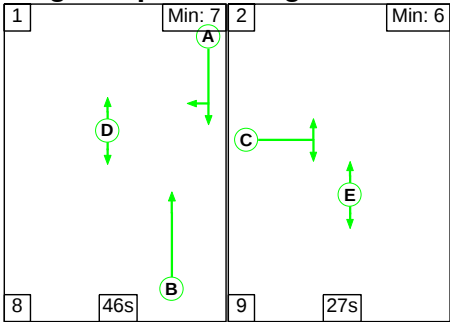


## Network Results

|    |                              |       |                                          |       |                 |    |
|----|------------------------------|-------|------------------------------------------|-------|-----------------|----|
| C1 | PRC for Signalled Lanes (%): | -11.9 | Total Delay for Signalled Lanes (pcuHr): | 43.84 | Cycle Time (s): | 90 |
|    | PRC Over All Lanes (%):      | -11.9 | Total Delay Over All Lanes(pcuHr):       | 43.84 |                 |    |

Full Input Data And Results  
**Scenario 12: '2023 Predicted with Lidl Saturday'** (FG12: '2023 Predicted with Lidl Saturday', Plan 1: 'Network Control Plan 1')

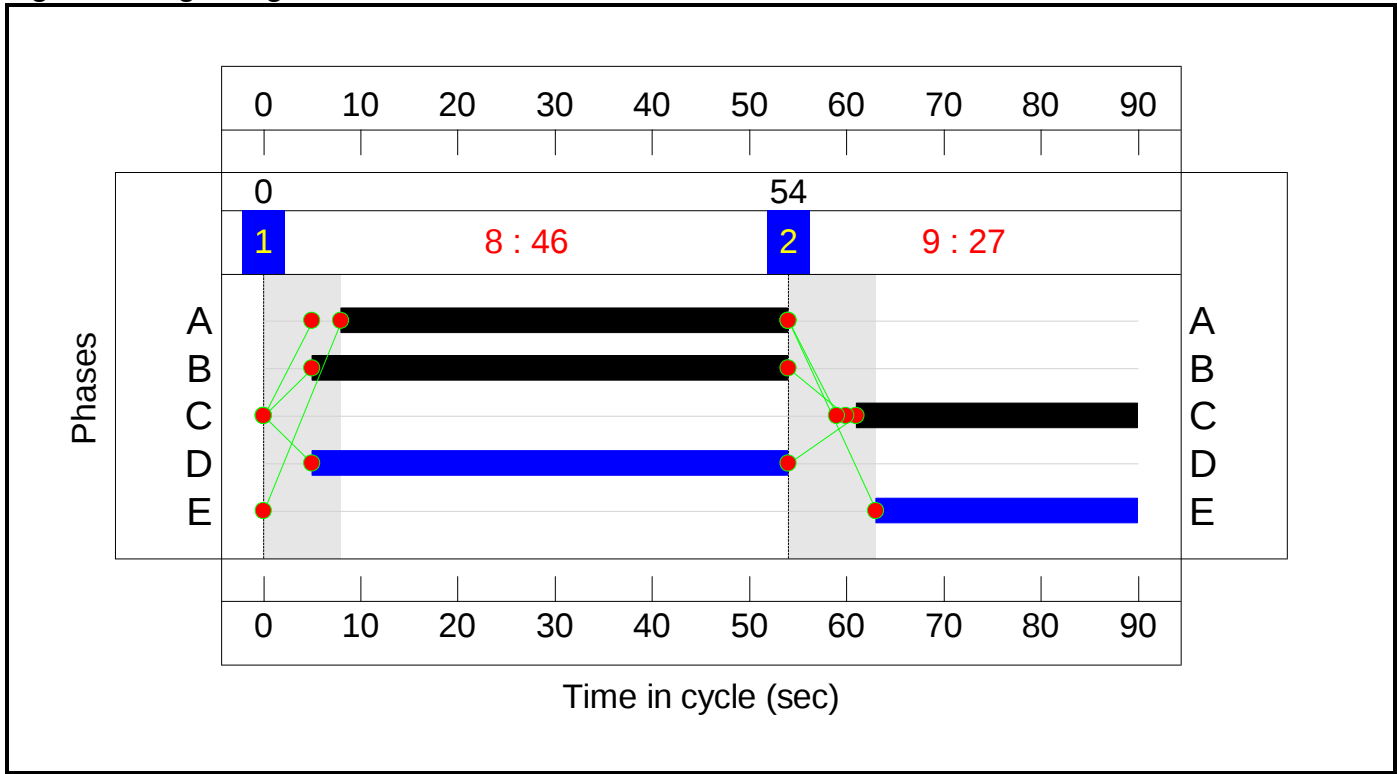
Stage Sequence Diagram



Stage Timings

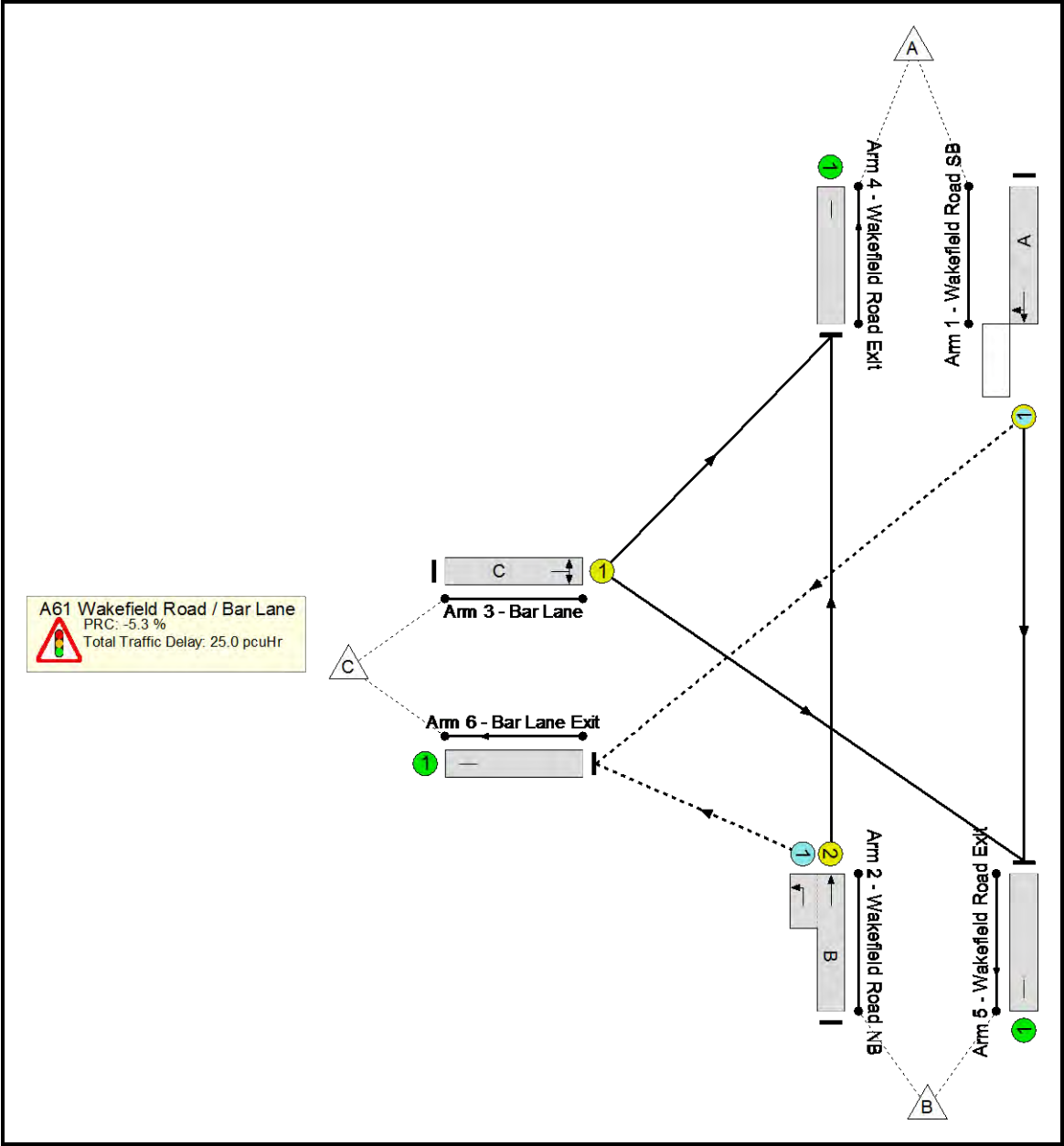
| Stage        | 1  | 2  |
|--------------|----|----|
| Duration     | 46 | 27 |
| Change Point | 0  | 54 |

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



## Network Results

## Network Results

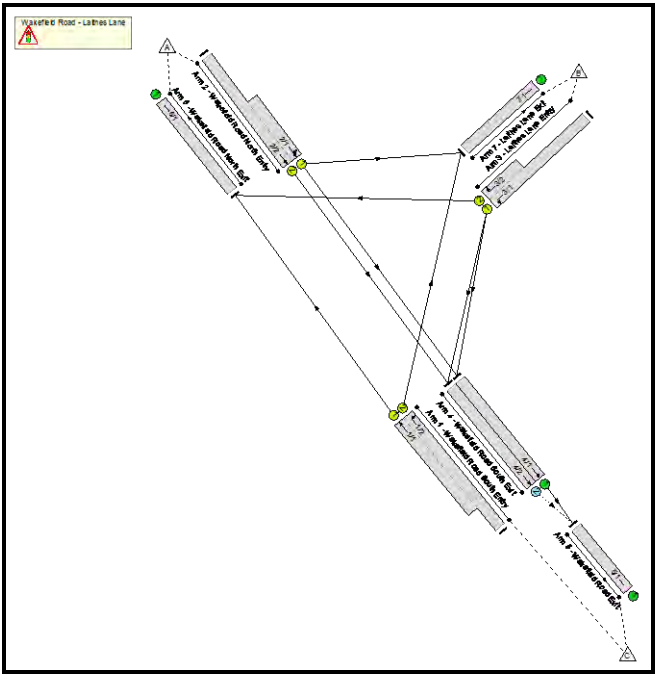
Full Input Data And Results

Full Input Data And Results

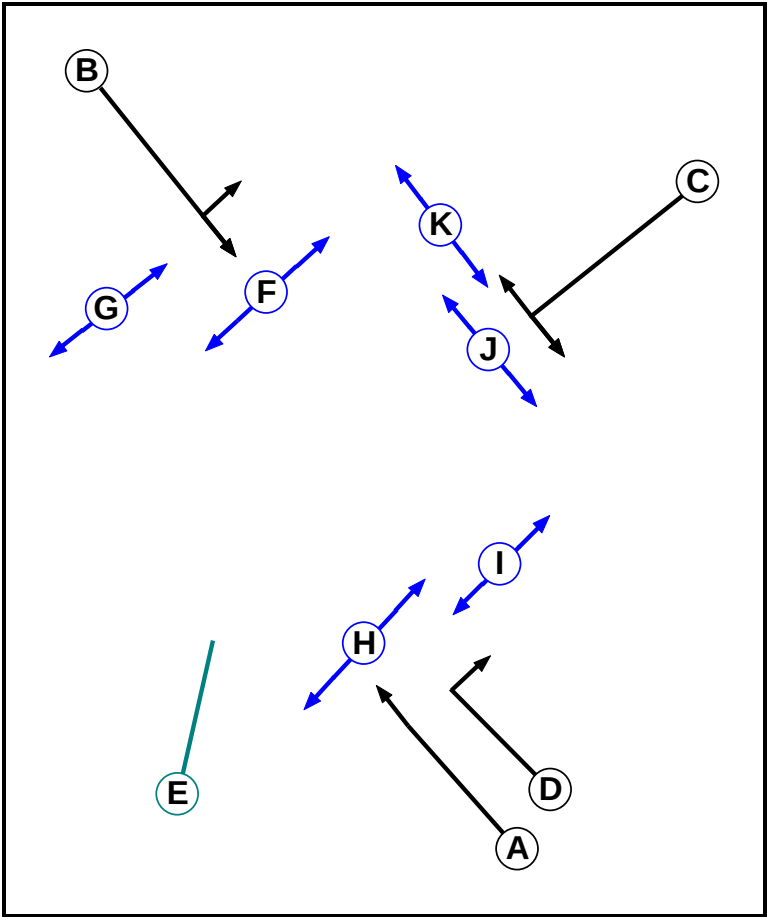
User and Project Details

|            |                                              |
|------------|----------------------------------------------|
| Project:   | Former William Freeman Works, Wakefield Road |
| Title:     | Wakefield Road - Laithes Lane                |
| Location:  |                                              |
| File name: | Wakefield Road - Laithes Lane.lsg3x          |
| Author:    | John Turner                                  |
| Company:   | Bryan G Hall                                 |
| Address:   |                                              |
| Notes:     |                                              |

Network Layout Diagram



Phase Diagram



Phase Input Data

| Phase Name | Phase Type | Assoc. Phase | Street Min | Cont Min |
|------------|------------|--------------|------------|----------|
| A          | Traffic    |              | 7          | 7        |
| B          | Traffic    |              | 7          | 7        |
| C          | Traffic    |              | 7          | 7        |
| D          | Traffic    |              | 7          | 7        |
| E          | Dummy      |              | 7          | 7        |
| F          | Pedestrian |              | 7          | 7        |
| G          | Pedestrian |              | 7          | 7        |
| H          | Pedestrian |              | 7          | 7        |
| I          | Pedestrian |              | 7          | 7        |
| J          | Pedestrian |              | 7          | 7        |
| K          | Pedestrian |              | 7          | 7        |

## Full Input Data And Results

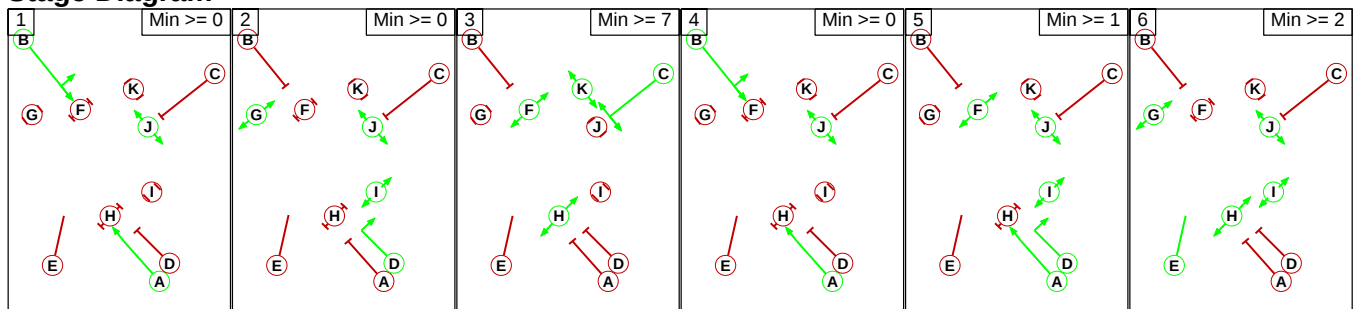
### Phase Intergreens Matrix

| Terminating Phase | Starting Phase |   |   |   |   |   |   |    |   |   |   |   |
|-------------------|----------------|---|---|---|---|---|---|----|---|---|---|---|
|                   |                | A | B | C | D | E | F | G  | H | I | J | K |
|                   | A              |   | - | 6 | - | 5 | - | 8  | 5 | - | - | - |
|                   | B              | - |   | 8 | 5 | 5 | 5 | -  | - | 9 | - | 7 |
|                   | C              | 5 | 5 |   | 5 | 5 | - | 8  | - | 7 | 5 | - |
|                   | D              | - | 7 | 5 |   | 5 | - | -  | 5 | - | - | 7 |
|                   | E              | 5 | 5 | 5 | 5 |   | - | -  | - | - | - | 6 |
|                   | F              | - | 8 | - | - | - |   | 10 | - | - | - | - |
|                   | G              | 6 | - | 6 | - | - | - |    | - | - | - | - |
|                   | H              | 8 | - | - | 6 | - | - | -  |   | - | - | - |
|                   | I              | - | 7 | 7 | - | - | - | -  | - |   | - | - |
|                   | J              | - | - | 7 | - | - | - | -  | - | - |   | - |
|                   | K              | - | 7 | - | 7 | 7 | - | -  | - | - | - |   |

### Phases in Stage

| Stage No. | Phases in Stage |
|-----------|-----------------|
| 1         | A B J           |
| 2         | D G I J         |
| 3         | C F H K         |
| 4         | A B J           |
| 5         | A D F I J       |
| 6         | E G H I J       |

### Stage Diagram



### Phase Delays

| Term. Stage                       | Start Stage | Phase | Type | Value | Cont value |
|-----------------------------------|-------------|-------|------|-------|------------|
| There are no Phase Delays defined |             |       |      |       |            |

Prohibited Stage Change

| From Stage | To Stage |   |    |   |   |   |    |
|------------|----------|---|----|---|---|---|----|
|            |          | 1 | 2  | 3 | 4 | 5 | 6  |
|            | 1        |   | 9  | 8 | 0 | 9 | 9  |
|            | 2        | 7 |    | 7 | 7 | 6 | 5  |
|            | 3        | 8 | 10 |   | 8 | 8 | 10 |
|            | 4        | 0 | 9  | 8 |   | 9 | 9  |
|            | 5        | 8 | 10 | 7 | 8 |   | 10 |
|            | 6        | 8 | 6  | 7 | 8 | 8 |    |

Full Input Data And Results

**Give-Way Lane Input Data**

| Junction: Wakefield Road - Laithes Lane |             |                                   |                                   |               |                  |              |                          |                            |     |                        |                               |
|-----------------------------------------|-------------|-----------------------------------|-----------------------------------|---------------|------------------|--------------|--------------------------|----------------------------|-----|------------------------|-------------------------------|
| Lane                                    | Movement    | Max Flow when Giving Way (PCU/Hr) | Min Flow when Giving Way (PCU/Hr) | Opposing Lane | Opp. Lane Coeff. | Opp. Mvmnts. | Right Turn Storage (PCU) | Non-Blocking Storage (PCU) | RTF | Right Turn Move up (s) | Max Turns in Intergreen (PCU) |
| 4/2<br>(Wakefield Road South Exit)      | 5/1 (Ahead) | 1439                              | 0                                 | 4/1           | 1.09             | All          | -                        | -                          | -   | -                      | -                             |

Full Input Data And Results

Lane Input Data

| Junction: Wakefield Road - Laithes Lane |           |        |             |           |                       |               |                                   |                |          |               |             |                    |
|-----------------------------------------|-----------|--------|-------------|-----------|-----------------------|---------------|-----------------------------------|----------------|----------|---------------|-------------|--------------------|
| Lane                                    | Lane Type | Phases | Start Disp. | End Disp. | Physical Length (PCU) | Sat Flow Type | Def User Saturation Flow (PCU/Hr) | Lane Width (m) | Gradient | Nearside Lane | Turns       | Turning Radius (m) |
| 1/1<br>(Wakefield Road South Entry)     | U         | A      | 2           | 3         | 22.6                  | Geom          | -                                 | 3.25           | 0.00     | Y             | Arm 6 Ahead | Inf                |
| 1/2<br>(Wakefield Road South Entry)     | U         | D      | 2           | 3         | 60.0                  | Geom          | -                                 | 3.25           | 0.00     | Y             | Arm 7 Right | 17.00              |
| 2/1<br>(Wakefield Road North Entry)     | U         | B      | 2           | 3         | 9.6                   | Geom          | -                                 | 3.50           | 0.00     | Y             | Arm 4 Ahead | Inf                |
|                                         |           |        |             |           |                       |               |                                   |                |          |               | Arm 7 Left  | 20.00              |
| 2/2<br>(Wakefield Road North Entry)     | U         | B      | 2           | 3         | 60.0                  | Geom          | -                                 | 3.50           | 0.00     | Y             | Arm 4 Ahead | Inf                |
| 3/1<br>(Laithes Lane Entry)             | U         | C      | 2           | 3         | 60.0                  | Geom          | -                                 | 3.30           | 0.00     | Y             | Arm 4 Left  | 14.00              |
| 3/2<br>(Laithes Lane Entry)             | U         | C      | 2           | 3         | 6.1                   | Geom          | -                                 | 3.30           | 0.00     | Y             | Arm 6 Right | 18.00              |
| 4/1<br>(Wakefield Road South Exit)      | U         |        | 2           | 3         | 17.4                  | Geom          | -                                 | 3.20           | 0.00     | Y             | Arm 5 Ahead | Inf                |
| 4/2<br>(Wakefield Road South Exit)      | O         |        | 2           | 3         | 17.4                  | Geom          | -                                 | 3.20           | 0.00     | Y             | Arm 5 Ahead | Inf                |
| 5/1<br>(Wakefield Road Exit)            | U         |        | 2           | 3         | 60.0                  | Inf           | -                                 | -              | -        | -             | -           | -                  |
| 6/1<br>(Wakefield Road North Exit)      | U         |        | 2           | 3         | 60.0                  | Inf           | -                                 | -              | -        | -             | -           | -                  |
| 7/1<br>(Laithes Lane Exit)              | U         |        | 2           | 3         | 60.0                  | Inf           | -                                 | -              | -        | -             | -           | -                  |

Traffic Flow Groups

| Flow Group                              |  | Start Time | End Time | Duration | Formula |
|-----------------------------------------|--|------------|----------|----------|---------|
| 10: '2023 Predicted with Lidl AM'       |  | 07:45      | 08:45    | 01:00    |         |
| 11: '2023 Predicted with Lidl PM'       |  | 16:45      | 17:45    | 01:00    |         |
| 12: '2023 Predicted with Lidl Saturday' |  | 11:45      | 12:45    | 01:00    |         |

Scenario 10: '2023 Predicted with Lidl AM' (FG10: '2023 Predicted with Lidl AM', Plan 1: 'Network Control Plan 1')  
Traffic Flows, Desired  
Desired Flow :

|        | Destination |      |     |     |      |
|--------|-------------|------|-----|-----|------|
| Origin |             | A    | B   | C   | Tot. |
|        | A           | 0    | 351 | 836 | 1187 |
|        | B           | 362  | 0   | 133 | 495  |
|        | C           | 731  | 164 | 0   | 895  |
|        | Tot.        | 1093 | 515 | 969 | 2577 |

Traffic Lane Flows

| Lane                                    | Scenario 10:<br>2023 Predicted with<br>Lidl AM |
|-----------------------------------------|------------------------------------------------|
| Junction: Wakefield Road - Laithes Lane |                                                |
| 1/1<br>(short)                          | 731                                            |
| 1/2<br>(with short)                     | 895(In)<br>164(Out)                            |
| 2/1<br>(short)                          | 594                                            |
| 2/2<br>(with short)                     | 1187(In)<br>593(Out)                           |
| 3/1<br>(with short)                     | 495(In)<br>133(Out)                            |
| 3/2<br>(short)                          | 362                                            |
| 4/1                                     | 309                                            |
| 4/2                                     | 660                                            |
| 5/1                                     | 969                                            |
| 6/1                                     | 1093                                           |
| 7/1                                     | 515                                            |

Lane Saturation Flows

| Junction: Wakefield Road - Laithes Lane   |                          |          |               |               |                    |               |                   |                          |
|-------------------------------------------|--------------------------|----------|---------------|---------------|--------------------|---------------|-------------------|--------------------------|
| Lane                                      | Lane Width (m)           | Gradient | Nearside Lane | Allowed Turns | Turning Radius (m) | Turning Prop. | Sat Flow (PCU/Hr) | Flared Sat Flow (PCU/Hr) |
| 1/1<br>(Wakefield Road South Entry)       | 3.25                     | 0.00     | Y             | Arm 6 Ahead   | Inf                | 100.0 %       | 1940              | 1940                     |
| 1/2<br>(Wakefield Road South Entry)       | 3.25                     | 0.00     | Y             | Arm 7 Right   | 17.00              | 100.0 %       | 1783              | 1783                     |
| 2/1<br>(Wakefield Road North Entry)       | 3.50                     | 0.00     | Y             | Arm 4 Ahead   | Inf                | 40.9 %        | 1882              | 1882                     |
|                                           |                          |          |               | Arm 7 Left    | 20.00              | 59.1 %        |                   |                          |
| 2/2<br>(Wakefield Road North Entry)       | 3.50                     | 0.00     | Y             | Arm 4 Ahead   | Inf                | 100.0 %       | 1965              | 1965                     |
| 3/1<br>(Laithes Lane Entry)               | 3.30                     | 0.00     | Y             | Arm 4 Left    | 14.00              | 100.0 %       | 1757              | 1757                     |
| 3/2<br>(Laithes Lane Entry)               | 3.30                     | 0.00     | Y             | Arm 6 Right   | 18.00              | 100.0 %       | 1795              | 1795                     |
| 4/1<br>(Wakefield Road South Exit)        | 3.20                     | 0.00     | Y             | Arm 5 Ahead   | Inf                | 100.0 %       | 1935              | 1935                     |
| 4/2<br>(Wakefield Road South Exit)        | 3.20                     | 0.00     | Y             | Arm 5 Ahead   | Inf                | 100.0 %       | 1935              | 1935                     |
| 5/1<br>(Wakefield Road Exit Lane 1)       | Infinite Saturation Flow |          |               |               |                    |               | Inf               | Inf                      |
| 6/1<br>(Wakefield Road North Exit Lane 1) | Infinite Saturation Flow |          |               |               |                    |               | Inf               | Inf                      |
| 7/1<br>(Laithes Lane Exit Lane 1)         | Infinite Saturation Flow |          |               |               |                    |               | Inf               | Inf                      |

Scenario 11: '2023 Predicted with Lidl PM' (FG11: '2023 Predicted with Lidl PM', Plan 1: 'Network Control Plan 1')  
Traffic Flows, Desired  
Desired Flow :

|        | Destination |      |     |     |      |
|--------|-------------|------|-----|-----|------|
| Origin |             | A    | B   | C   | Tot. |
|        | A           | 0    | 368 | 763 | 1131 |
|        | B           | 389  | 0   | 153 | 542  |
|        | C           | 954  | 185 | 0   | 1139 |
|        | Tot.        | 1343 | 553 | 916 | 2812 |

Traffic Lane Flows

| Lane                                    | Scenario 11:<br>2023 Predicted with<br>Lidl PM |
|-----------------------------------------|------------------------------------------------|
| Junction: Wakefield Road - Laithes Lane |                                                |
| 1/1<br>(short)                          | 954                                            |
| 1/2<br>(with short)                     | 1139(In)<br>185(Out)                           |
| 2/1<br>(short)                          | 566                                            |
| 2/2<br>(with short)                     | 1131(In)<br>565(Out)                           |
| 3/1<br>(with short)                     | 542(In)<br>153(Out)                            |
| 3/2<br>(short)                          | 389                                            |
| 4/1                                     | 274                                            |
| 4/2                                     | 642                                            |
| 5/1                                     | 916                                            |
| 6/1                                     | 1343                                           |
| 7/1                                     | 553                                            |

Lane Saturation Flows

| Junction: Wakefield Road - Laithes Lane   |                          |          |               |               |                    |               |                   |                          |
|-------------------------------------------|--------------------------|----------|---------------|---------------|--------------------|---------------|-------------------|--------------------------|
| Lane                                      | Lane Width (m)           | Gradient | Nearside Lane | Allowed Turns | Turning Radius (m) | Turning Prop. | Sat Flow (PCU/Hr) | Flared Sat Flow (PCU/Hr) |
| 1/1<br>(Wakefield Road South Entry)       | 3.25                     | 0.00     | Y             | Arm 6 Ahead   | Inf                | 100.0 %       | 1940              | 1940                     |
| 1/2<br>(Wakefield Road South Entry)       | 3.25                     | 0.00     | Y             | Arm 7 Right   | 17.00              | 100.0 %       | 1783              | 1783                     |
| 2/1<br>(Wakefield Road North Entry)       | 3.50                     | 0.00     | Y             | Arm 4 Ahead   | Inf                | 35.0 %        | 1874              | 1874                     |
|                                           |                          |          |               | Arm 7 Left    | 20.00              | 65.0 %        |                   |                          |
| 2/2<br>(Wakefield Road North Entry)       | 3.50                     | 0.00     | Y             | Arm 4 Ahead   | Inf                | 100.0 %       | 1965              | 1965                     |
| 3/1<br>(Laithes Lane Entry)               | 3.30                     | 0.00     | Y             | Arm 4 Left    | 14.00              | 100.0 %       | 1757              | 1757                     |
| 3/2<br>(Laithes Lane Entry)               | 3.30                     | 0.00     | Y             | Arm 6 Right   | 18.00              | 100.0 %       | 1795              | 1795                     |
| 4/1<br>(Wakefield Road South Exit)        | 3.20                     | 0.00     | Y             | Arm 5 Ahead   | Inf                | 100.0 %       | 1935              | 1935                     |
| 4/2<br>(Wakefield Road South Exit)        | 3.20                     | 0.00     | Y             | Arm 5 Ahead   | Inf                | 100.0 %       | 1935              | 1935                     |
| 5/1<br>(Wakefield Road Exit Lane 1)       | Infinite Saturation Flow |          |               |               |                    |               | Inf               | Inf                      |
| 6/1<br>(Wakefield Road North Exit Lane 1) | Infinite Saturation Flow |          |               |               |                    |               | Inf               | Inf                      |
| 7/1<br>(Laithes Lane Exit Lane 1)         | Infinite Saturation Flow |          |               |               |                    |               | Inf               | Inf                      |

## Full Input Data And Results

**Scenario 12: '2023 Predicted with Lidl Saturday'** (FG12: '2023 Predicted with Lidl Saturday', Plan 1: 'Network Control Plan 1')

### Traffic Flows, Desired

**Desired Flow :**

| Origin | Destination |      |     |     |      |
|--------|-------------|------|-----|-----|------|
|        |             | A    | B   | C   | Tot. |
|        | A           | 0    | 302 | 807 | 1109 |
|        | B           | 289  | 0   | 178 | 467  |
|        | C           | 859  | 206 | 0   | 1065 |
|        | Tot.        | 1148 | 508 | 985 | 2641 |

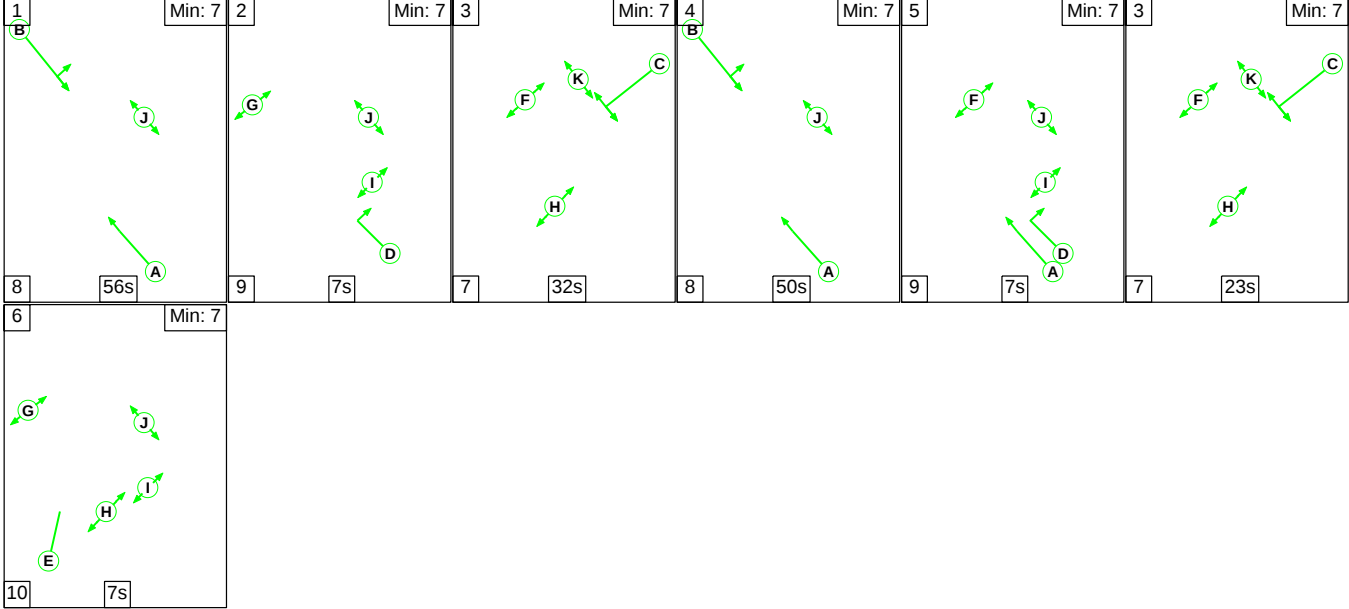
### Traffic Lane Flows

| Lane                                           | Scenario 12:<br>2023 Predicted with<br>Lidl Saturday |
|------------------------------------------------|------------------------------------------------------|
| <b>Junction: Wakefield Road - Laithes Lane</b> |                                                      |
| 1/1<br>(short)                                 | 859                                                  |
| 1/2<br>(with short)                            | 1065(In)<br>206(Out)                                 |
| 2/1<br>(short)                                 | 555                                                  |
| 2/2<br>(with short)                            | 1109(In)<br>554(Out)                                 |
| 3/1<br>(with short)                            | 467(In)<br>178(Out)                                  |
| 3/2<br>(short)                                 | 289                                                  |
| 4/1                                            | 342                                                  |
| 4/2                                            | 643                                                  |
| 5/1                                            | 985                                                  |
| 6/1                                            | 1148                                                 |
| 7/1                                            | 508                                                  |

Lane Saturation Flows

| Junction: Wakefield Road - Laithes Lane   |                          |          |               |               |                    |               |                   |                          |
|-------------------------------------------|--------------------------|----------|---------------|---------------|--------------------|---------------|-------------------|--------------------------|
| Lane                                      | Lane Width (m)           | Gradient | Nearside Lane | Allowed Turns | Turning Radius (m) | Turning Prop. | Sat Flow (PCU/Hr) | Flared Sat Flow (PCU/Hr) |
| 1/1<br>(Wakefield Road South Entry)       | 3.25                     | 0.00     | Y             | Arm 6 Ahead   | Inf                | 100.0 %       | 1940              | 1940                     |
| 1/2<br>(Wakefield Road South Entry)       | 3.25                     | 0.00     | Y             | Arm 7 Right   | 17.00              | 100.0 %       | 1783              | 1783                     |
| 2/1<br>(Wakefield Road North Entry)       | 3.50                     | 0.00     | Y             | Arm 4 Ahead   | Inf                | 45.6 %        | 1888              | 1888                     |
| 2/2<br>(Wakefield Road North Entry)       | 3.50                     | 0.00     | Y             | Arm 7 Left    | 20.00              | 54.4 %        | 1888              | 1888                     |
| 2/2<br>(Wakefield Road North Entry)       | 3.50                     | 0.00     | Y             | Arm 4 Ahead   | Inf                | 100.0 %       | 1965              | 1965                     |
| 3/1<br>(Laithes Lane Entry)               | 3.30                     | 0.00     | Y             | Arm 4 Left    | 14.00              | 100.0 %       | 1757              | 1757                     |
| 3/2<br>(Laithes Lane Entry)               | 3.30                     | 0.00     | Y             | Arm 6 Right   | 18.00              | 100.0 %       | 1795              | 1795                     |
| 4/1<br>(Wakefield Road South Exit)        | 3.20                     | 0.00     | Y             | Arm 5 Ahead   | Inf                | 100.0 %       | 1935              | 1935                     |
| 4/2<br>(Wakefield Road South Exit)        | 3.20                     | 0.00     | Y             | Arm 5 Ahead   | Inf                | 100.0 %       | 1935              | 1935                     |
| 5/1<br>(Wakefield Road Exit Lane 1)       | Infinite Saturation Flow |          |               |               |                    |               | Inf               | Inf                      |
| 6/1<br>(Wakefield Road North Exit Lane 1) | Infinite Saturation Flow |          |               |               |                    |               | Inf               | Inf                      |
| 7/1<br>(Laithes Lane Exit Lane 1)         | Infinite Saturation Flow |          |               |               |                    |               | Inf               | Inf                      |

Scenario 10: '2023 Predicted with Lidl AM' (FG10: '2023 Predicted with Lidl AM', Plan 1: 'Network Control Plan 1')  
Stage Sequence Diagram

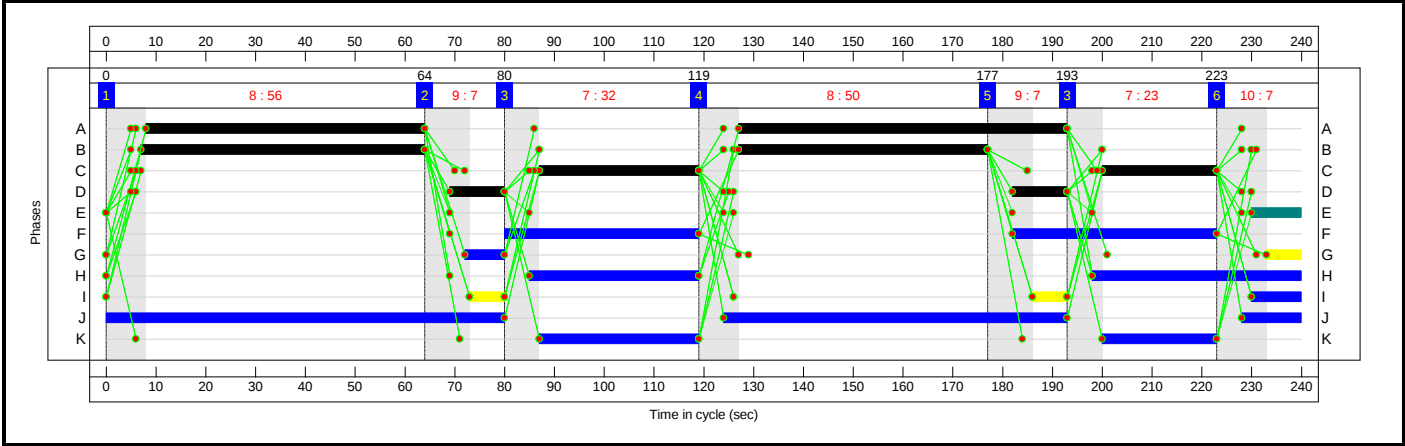


Full Input Data And Results

Stage Timings

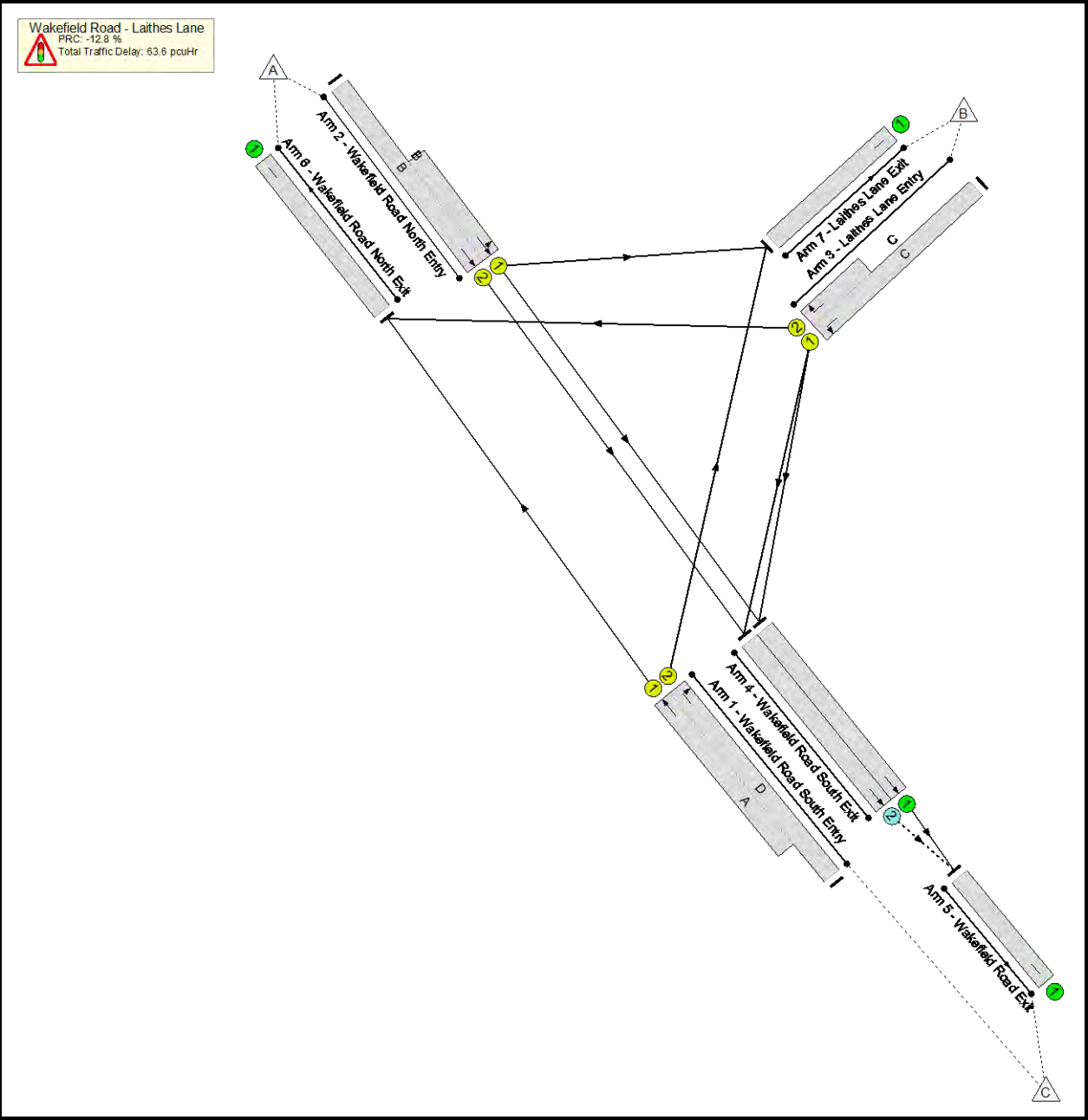
| Stage        | 1  | 2  | 3  | 4   | 5   | 3   | 6   |
|--------------|----|----|----|-----|-----|-----|-----|
| Duration     | 56 | 7  | 32 | 50  | 7   | 23  | 7   |
| Change Point | 0  | 64 | 80 | 119 | 177 | 193 | 223 |

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



## Full Input Data And Results

## Network Results

| Item                                   | Lane Description                       | Lane Type     | Controller Stream     | Position In Filtered Route   | Full Phase                  | Arrow Phase           | Num Greens                   | Total Green (s)                    | Arrow Green (s)     | Demand Flow (pcu)         | Sat Flow (pcu/Hr)                | Capacity (pcu)             | Deg Sat (%)          |
|----------------------------------------|----------------------------------------|---------------|-----------------------|------------------------------|-----------------------------|-----------------------|------------------------------|------------------------------------|---------------------|---------------------------|----------------------------------|----------------------------|----------------------|
| Network: Wakefield Road - Laithes Lane | -                                      | -             | N/A                   | -                            | -                           |                       | -                            | -                                  | -                   | -                         | -                                | -                          | 101.5%               |
| Wakefield Road - Laithes Lane          | -                                      | -             | N/A                   | -                            | -                           |                       | -                            | -                                  | -                   | -                         | -                                | -                          | 101.5%               |
| 1/2+1/1                                | Wakefield Road South Entry Ahead Right | U             | N/A                   | N/A                          | D A                         |                       | 2                            | 22:122                             | -                   | 895                       | 1783:1940                        | 1122                       | 79.8%                |
| 2/2+2/1                                | Wakefield Road North Entry Ahead Left  | U             | N/A                   | N/A                          | B                           |                       | 2                            | 107                                | -                   | 1187                      | 1965:1882                        | 1169                       | 101.5%               |
| 3/1+3/2                                | Laithes Lane Entry Left Right          | U             | N/A                   | N/A                          | C                           |                       | 2                            | 55                                 | -                   | 495                       | 1757:1795                        | 495                        | 100.1%               |
| 4/1                                    | Wakefield Road South Exit Ahead        | U             | N/A                   | N/A                          | -                           |                       | -                            | -                                  | -                   | 309                       | 1935                             | 1935                       | 15.8%                |
| 4/2                                    | Wakefield Road South Exit Ahead        | O             | N/A                   | N/A                          | -                           |                       | -                            | -                                  | -                   | 660                       | 1935                             | 1106                       | 58.9%                |
| Item                                   | Arriving (pcu)                         | Leaving (pcu) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Uniform Delay (pcuHr) | Rand + Oversat Delay (pcuHr) | Storage Area Uniform Delay (pcuHr) | Total Delay (pcuHr) | Av. Delay Per PCU (s/pcu) | Max. Back of Uniform Queue (pcu) | Rand + Oversat Queue (pcu) | Mean Max Queue (pcu) |
| Network: Wakefield Road - Laithes Lane | -                                      | -             | 651                   | 0                            | 0                           | 27.4                  | 36.2                         | 0.0                                | 63.6                | -                         | -                                | -                          | -                    |
| Wakefield Road - Laithes Lane          | -                                      | -             | 651                   | 0                            | 0                           | 27.4                  | 36.2                         | 0.0                                | 63.6                | -                         | -                                | -                          | -                    |
| 1/2+1/1                                | 895                                    | 895           | -                     | -                            | -                           | 7.0                   | 1.9                          | -                                  | 9.0                 | 36.1                      | 20.1                             | 1.9                        | 22.0                 |
| 2/2+2/1                                | 1187                                   | 1169          | -                     | -                            | -                           | 11.5                  | 22.2                         | -                                  | 33.7                | 102.2                     | 36.3                             | 22.2                       | 58.5                 |
| 3/1+3/2                                | 495                                    | 495           | -                     | -                            | -                           | 6.2                   | 11.2                         | -                                  | 17.5                | 127.2                     | 16.5                             | 11.2                       | 27.8                 |
| 4/1                                    | 305                                    | 305           | -                     | -                            | -                           | 0.0                   | 0.1                          | -                                  | 0.1                 | 1.1                       | 0.0                              | 0.1                        | 0.1                  |
| 4/2                                    | 651                                    | 651           | 651                   | 0                            | 0                           | 2.6                   | 0.7                          | -                                  | 3.3                 | 18.3                      | 19.8                             | 0.7                        | 20.5                 |

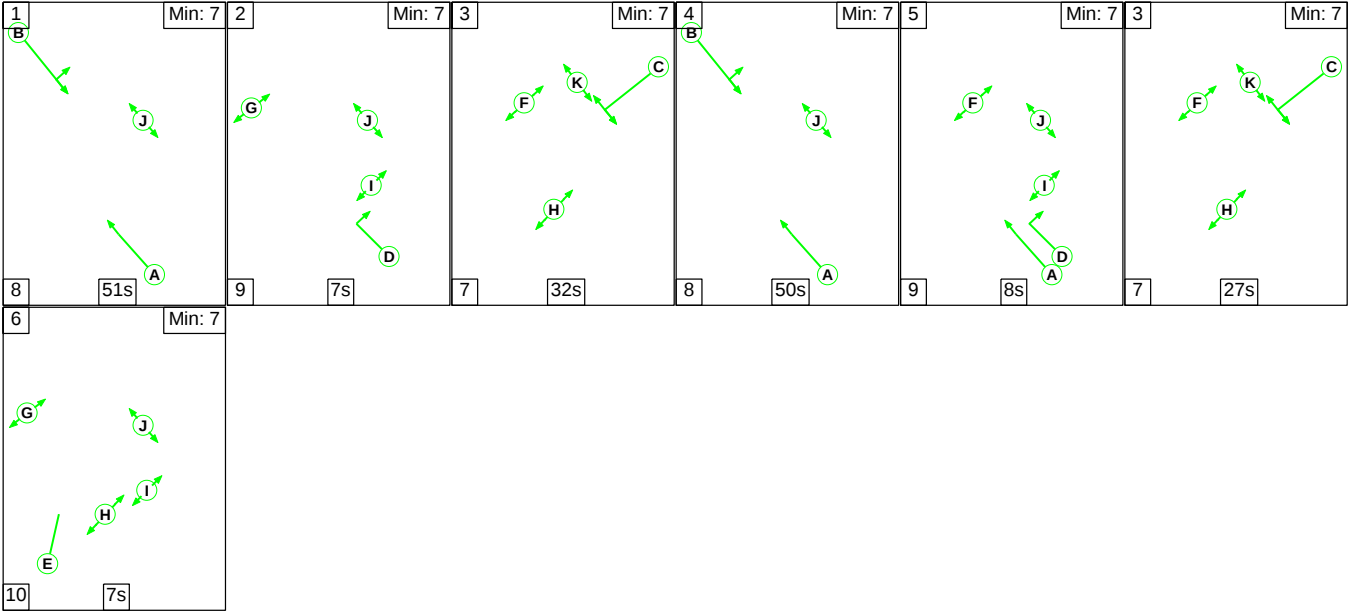
Full Input Data And Results

|    |                              |       |                                          |       |                 |     |
|----|------------------------------|-------|------------------------------------------|-------|-----------------|-----|
| C1 | PRC for Signalled Lanes (%): | -12.8 | Total Delay for Signalled Lanes (pcuHr): | 60.16 | Cycle Time (s): | 240 |
|    | PRC Over All Lanes (%):      | -12.8 | Total Delay Over All Lanes(pcuHr):       | 63.57 |                 |     |

Full Input Data And Results

**Scenario 11: '2023 Predicted with Lidl PM'** (FG11: '2023 Predicted with Lidl PM', Plan 1: 'Network Control Plan 1')

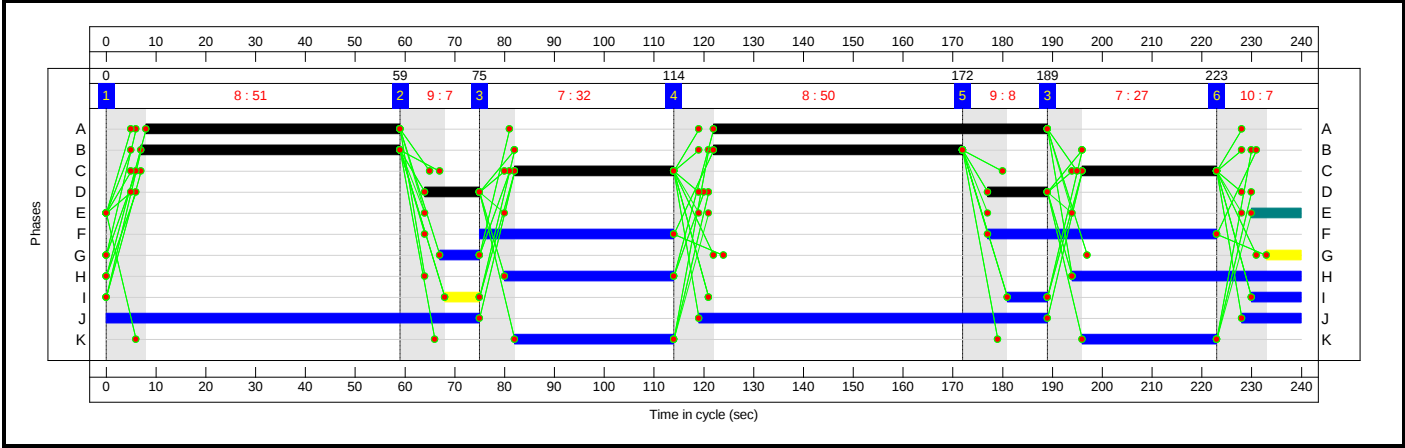
**Stage Sequence Diagram**



**Stage Timings**

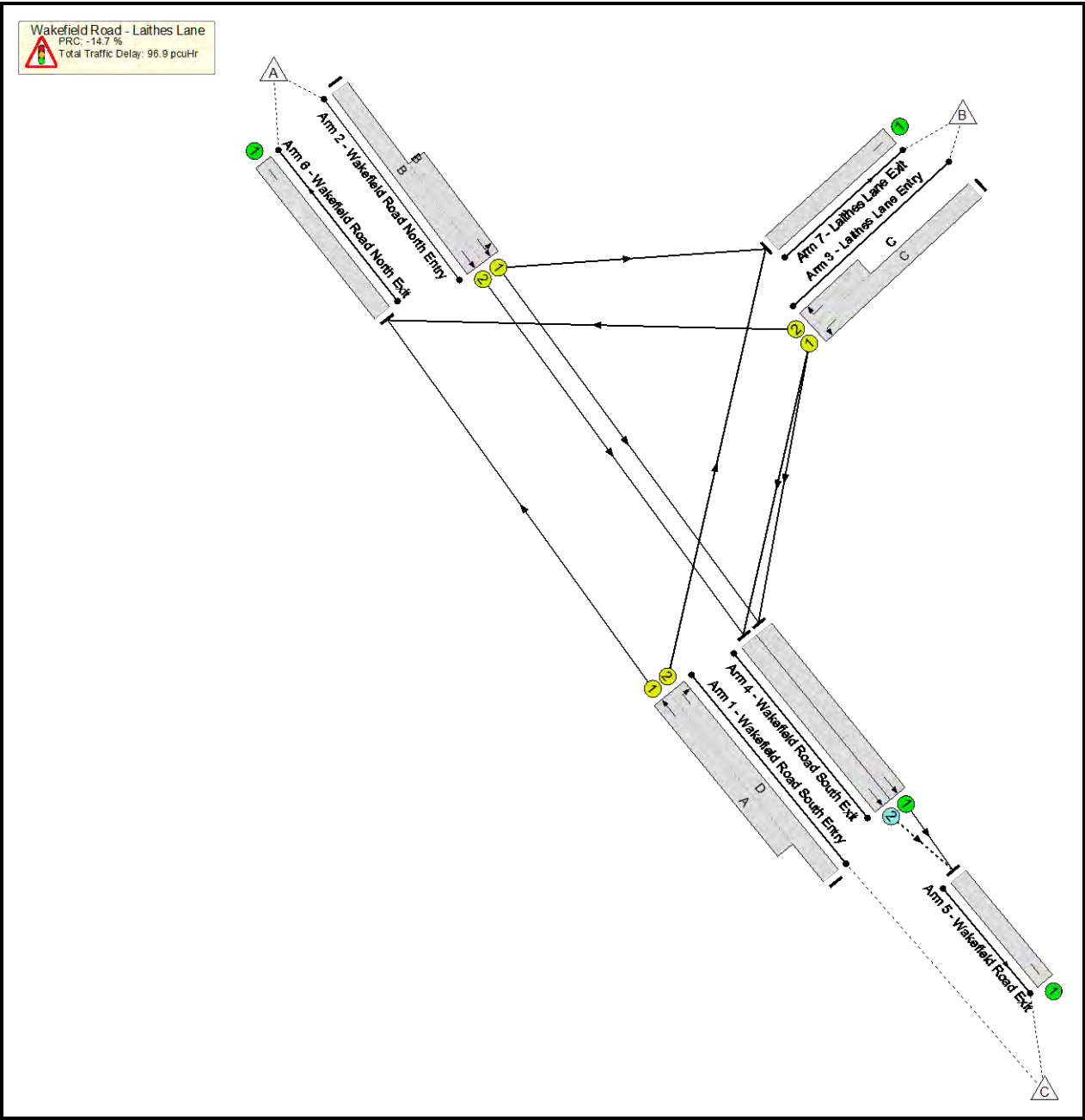
| Stage        | 1  | 2  | 3  | 4   | 5   | 3   | 6   |
|--------------|----|----|----|-----|-----|-----|-----|
| Duration     | 51 | 7  | 32 | 50  | 8   | 27  | 7   |
| Change Point | 0  | 59 | 75 | 114 | 172 | 189 | 223 |

**Signal Timings Diagram**



Full Input Data And Results

Network Layout Diagram



## Full Input Data And Results

### Network Results

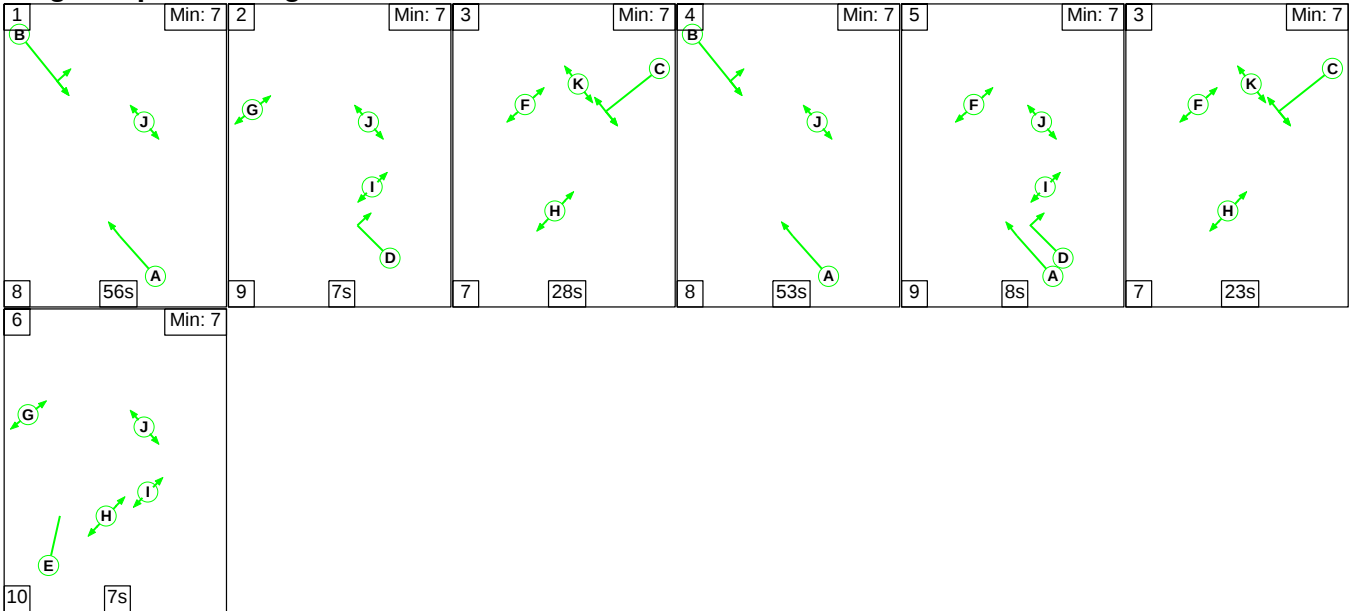
| Item                                   | Lane Description                       | Lane Type     | Controller Stream     | Position In Filtered Route   | Full Phase                  | Arrow Phase           | Num Greens                   | Total Green (s)                    | Arrow Green (s)     | Demand Flow (pcu)         | Sat Flow (pcu/Hr)                | Capacity (pcu)             | Deg Sat (%)          |
|----------------------------------------|----------------------------------------|---------------|-----------------------|------------------------------|-----------------------------|-----------------------|------------------------------|------------------------------------|---------------------|---------------------------|----------------------------------|----------------------------|----------------------|
| Network: Wakefield Road - Laithes Lane | -                                      | -             | N/A                   | -                            | -                           |                       | -                            | -                                  | -                   | -                         | -                                | -                          | 103.2%               |
| Wakefield Road - Laithes Lane          | -                                      | -             | N/A                   | -                            | -                           |                       | -                            | -                                  | -                   | -                         | -                                | -                          | 103.2%               |
| 1/2+1/1                                | Wakefield Road South Entry Ahead Right | U             | N/A                   | N/A                          | D A                         |                       | 2                            | 23:118                             | -                   | 1139                      | 1783:1940                        | 1103                       | 103.2%               |
| 2/2+2/1                                | Wakefield Road North Entry Ahead Left  | U             | N/A                   | N/A                          | B                           |                       | 2                            | 102                                | -                   | 1131                      | 1965:1874                        | 1128                       | 100.3%               |
| 3/1+3/2                                | Laithes Lane Entry Left Right          | U             | N/A                   | N/A                          | C                           |                       | 2                            | 59                                 | -                   | 542                       | 1757:1795                        | 529                        | 102.5%               |
| 4/1                                    | Wakefield Road South Exit Ahead        | U             | N/A                   | N/A                          | -                           |                       | -                            | -                                  | -                   | 274                       | 1935                             | 1935                       | 14.0%                |
| 4/2                                    | Wakefield Road South Exit Ahead        | O             | N/A                   | N/A                          | -                           |                       | -                            | -                                  | -                   | 642                       | 1935                             | 1143                       | 55.9%                |
| Item                                   | Arriving (pcu)                         | Leaving (pcu) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Uniform Delay (pcuHr) | Rand + Oversat Delay (pcuHr) | Storage Area Uniform Delay (pcuHr) | Total Delay (pcuHr) | Av. Delay Per PCU (s/pcu) | Max. Back of Uniform Queue (pcu) | Rand + Oversat Queue (pcu) | Mean Max Queue (pcu) |
| Network: Wakefield Road - Laithes Lane | -                                      | -             | 639                   | 0                            | 0                           | 35.4                  | 61.6                         | 0.0                                | 96.9                | -                         | -                                | -                          | -                    |
| Wakefield Road - Laithes Lane          | -                                      | -             | 639                   | 0                            | 0                           | 35.4                  | 61.6                         | 0.0                                | 96.9                | -                         | -                                | -                          | -                    |
| 1/2+1/1                                | 1139                                   | 1103          | -                     | -                            | -                           | 15.0                  | 27.9                         | -                                  | 43.0                | 135.8                     | 47.5                             | 27.9                       | 75.4                 |
| 2/2+2/1                                | 1131                                   | 1128          | -                     | -                            | -                           | 10.4                  | 17.6                         | -                                  | 27.9                | 88.9                      | 33.0                             | 17.6                       | 50.6                 |
| 3/1+3/2                                | 542                                    | 529           | -                     | -                            | -                           | 7.9                   | 15.4                         | -                                  | 23.3                | 154.6                     | 19.0                             | 15.4                       | 34.3                 |
| 4/1                                    | 272                                    | 272           | -                     | -                            | -                           | 0.0                   | 0.1                          | -                                  | 0.1                 | 1.1                       | 0.0                              | 0.1                        | 0.1                  |
| 4/2                                    | 639                                    | 639           | 639                   | 0                            | 0                           | 2.1                   | 0.6                          | -                                  | 2.7                 | 15.2                      | 18.5                             | 0.6                        | 19.1                 |

Full Input Data And Results

|    |                              |       |                                          |       |                 |     |
|----|------------------------------|-------|------------------------------------------|-------|-----------------|-----|
| C1 | PRC for Signalled Lanes (%): | -14.7 | Total Delay for Signalled Lanes (pcuHr): | 94.17 | Cycle Time (s): | 240 |
|    | PRC Over All Lanes (%):      | -14.7 | Total Delay Over All Lanes(pcuHr):       | 96.94 |                 |     |

Full Input Data And Results  
**Scenario 12: '2023 Predicted with Lidl Saturday'** (FG12: '2023 Predicted with Lidl Saturday', Plan 1: 'Network Control Plan 1')

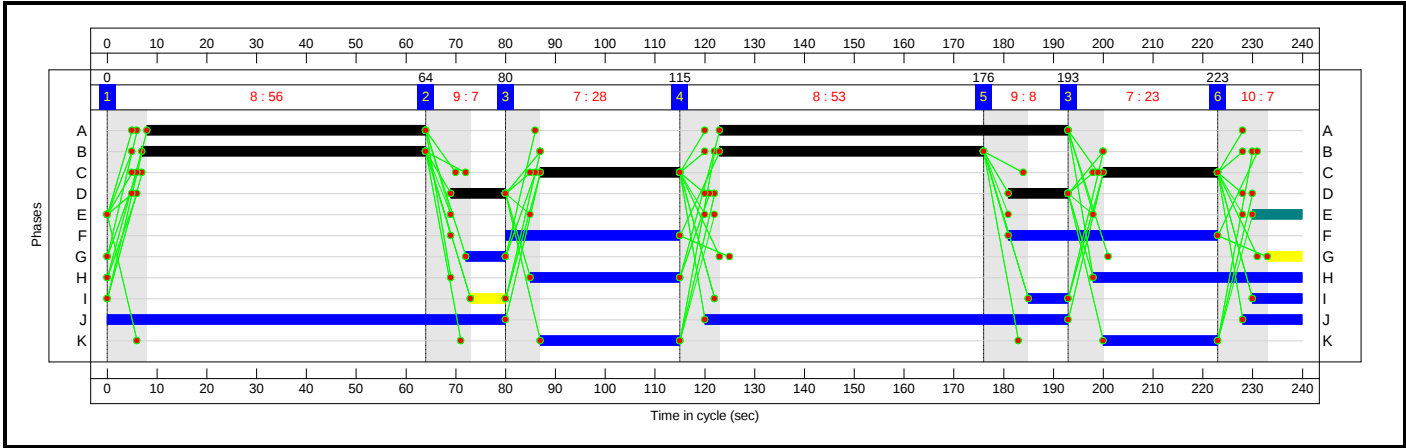
Stage Sequence Diagram



Stage Timings

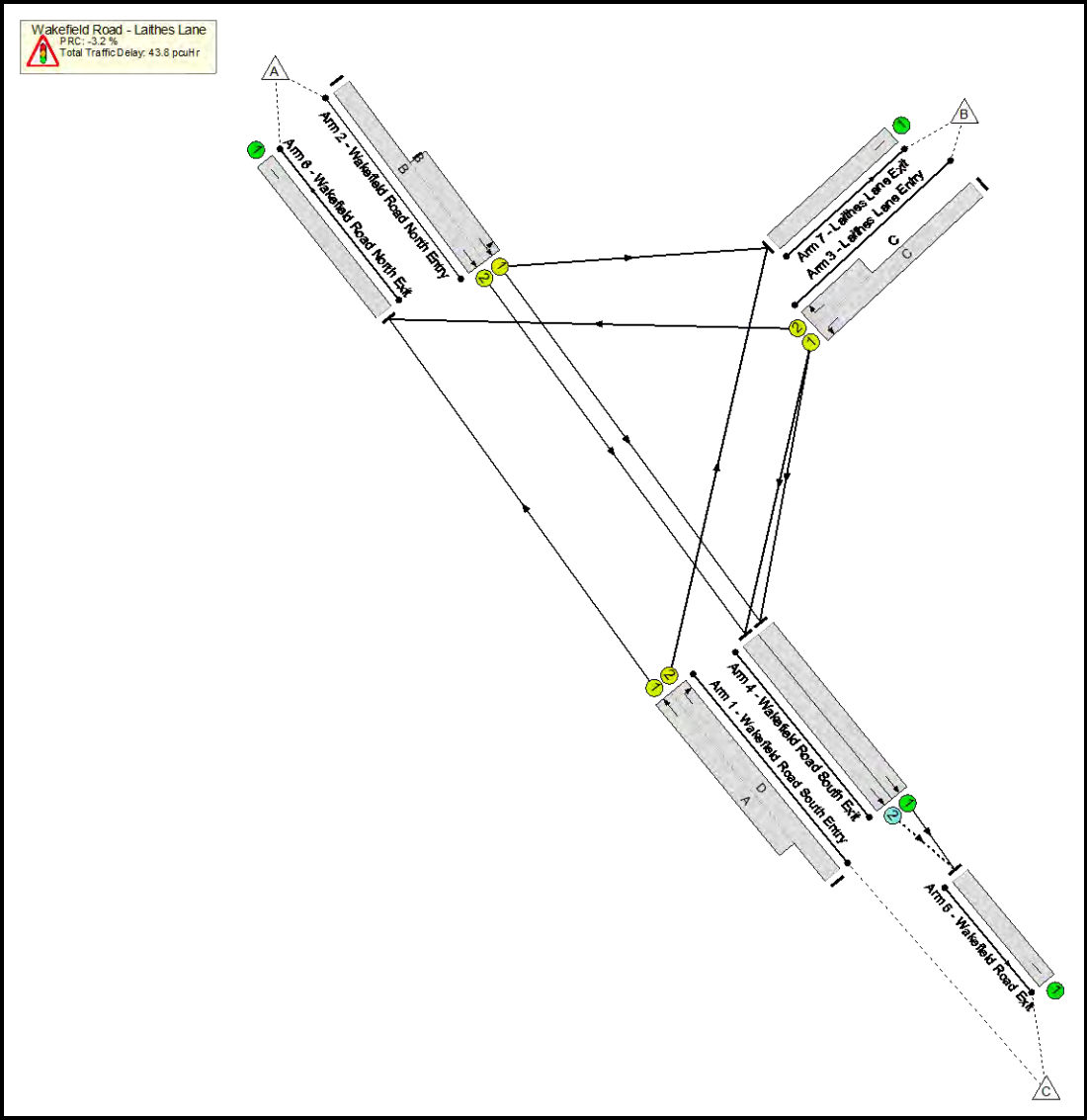
| Stage        | 1  | 2  | 3  | 4   | 5   | 3   | 6   |
|--------------|----|----|----|-----|-----|-----|-----|
| Duration     | 56 | 7  | 28 | 53  | 8   | 23  | 7   |
| Change Point | 0  | 64 | 80 | 115 | 176 | 193 | 223 |

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



## Full Input Data And Results

## Network Results

| Item                                   | Lane Description                       | Lane Type     | Controller Stream     | Position In Filtered Route   | Full Phase                  | Arrow Phase           | Num Greens                   | Total Green (s)                    | Arrow Green (s)     | Demand Flow (pcu)         | Sat Flow (pcu/Hr)                | Capacity (pcu)             | Deg Sat (%)          |
|----------------------------------------|----------------------------------------|---------------|-----------------------|------------------------------|-----------------------------|-----------------------|------------------------------|------------------------------------|---------------------|---------------------------|----------------------------------|----------------------------|----------------------|
| Network: Wakefield Road - Laithes Lane | -                                      | -             | N/A                   | -                            | -                           |                       | -                            | -                                  | -                   | -                         | -                                | -                          | 92.9%                |
| Wakefield Road - Laithes Lane          | -                                      | -             | N/A                   | -                            | -                           |                       | -                            | -                                  | -                   | -                         | -                                | -                          | 92.9%                |
| 1/2+1/1                                | Wakefield Road South Entry Ahead Right | U             | N/A                   | N/A                          | D A                         |                       | 2                            | 23:126                             | -                   | 1065                      | 1783:1940                        | 1152                       | 92.5%                |
| 2/2+2/1                                | Wakefield Road North Entry Ahead Left  | U             | N/A                   | N/A                          | B                           |                       | 2                            | 110                                | -                   | 1109                      | 1965:1888                        | 1194                       | 92.9%                |
| 3/1+3/2                                | Laithes Lane Entry Left Right          | U             | N/A                   | N/A                          | C                           |                       | 2                            | 51                                 | -                   | 467                       | 1757:1795                        | 510                        | 91.6%                |
| 4/1                                    | Wakefield Road South Exit Ahead        | U             | N/A                   | N/A                          | -                           |                       | -                            | -                                  | -                   | 342                       | 1935                             | 1935                       | 17.7%                |
| 4/2                                    | Wakefield Road South Exit Ahead        | O             | N/A                   | N/A                          | -                           |                       | -                            | -                                  | -                   | 643                       | 1935                             | 1066                       | 60.3%                |
| Item                                   | Arriving (pcu)                         | Leaving (pcu) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Uniform Delay (pcuHr) | Rand + Oversat Delay (pcuHr) | Storage Area Uniform Delay (pcuHr) | Total Delay (pcuHr) | Av. Delay Per PCU (s/pcu) | Max. Back of Uniform Queue (pcu) | Rand + Oversat Queue (pcu) | Mean Max Queue (pcu) |
| Network: Wakefield Road - Laithes Lane | -                                      | -             | 643                   | 0                            | 0                           | 27.3                  | 16.5                         | 0.0                                | 43.8                | -                         | -                                | -                          | -                    |
| Wakefield Road - Laithes Lane          | -                                      | -             | 643                   | 0                            | 0                           | 27.3                  | 16.5                         | 0.0                                | 43.8                | -                         | -                                | -                          | -                    |
| 1/2+1/1                                | 1065                                   | 1045          | -                     | -                            | -                           | 11.0                  | 5.5                          | -                                  | 16.4                | 55.6                      | 25.9                             | 5.5                        | 31.3                 |
| 2/2+2/1                                | 1109                                   | 1109          | -                     | -                            | -                           | 7.9                   | 5.7                          | -                                  | 13.6                | 44.2                      | 27.7                             | 5.7                        | 33.4                 |
| 3/1+3/2                                | 467                                    | 467           | -                     | -                            | -                           | 5.7                   | 4.5                          | -                                  | 10.2                | 78.6                      | 12.8                             | 4.5                        | 17.3                 |
| 4/1                                    | 342                                    | 342           | -                     | -                            | -                           | 0.0                   | 0.1                          | -                                  | 0.1                 | 1.1                       | 0.0                              | 0.1                        | 0.1                  |
| 4/2                                    | 643                                    | 643           | 643                   | 0                            | 0                           | 2.7                   | 0.8                          | -                                  | 3.5                 | 19.5                      | 19.1                             | 0.8                        | 19.9                 |

Full Input Data And Results

|    |                              |      |                                          |       |                 |     |
|----|------------------------------|------|------------------------------------------|-------|-----------------|-----|
| C1 | PRC for Signalled Lanes (%): | -3.2 | Total Delay for Signalled Lanes (pcuHr): | 40.25 | Cycle Time (s): | 240 |
|    | PRC Over All Lanes (%):      | -3.2 | Total Delay Over All Lanes(pcuHr):       | 43.85 |                 |     |

| Junctions 9                                                                                                                                                                 |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| ARCADY 9 - Roundabout Module                                                                                                                                                |  |  |  |
| Version: 9.0.1.4646 []<br>© Copyright TRL Limited, 2018                                                                                                                     |  |  |  |
| For sales and distribution information, program advice and maintenance, contact TRL:<br>Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk |  |  |  |
| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution            |  |  |  |

**Filename:** A61 Wakefield Road-A633 Rotherham Road mini-Roundabout.j9

**Path:** Y:\2014\14-101 to 14-125\14-114 Former William Freeman Works, Mapplewell\Technical\2017 Transport Assessment\Junction Modelling\Junctions 9

**Report generation date:** 08/01/2018 09:06:48

## «2023 Predicted with Lidl, AM

- »Junction Network
- »Arms
- »Traffic Demand
- »Origin-Destination Data
- »Vehicle Mix
- »Results

## Summary of junction performance

|                          | AM          |           |      |     |
|--------------------------|-------------|-----------|------|-----|
|                          | Queue (PCU) | Delay (s) | RFC  | LOS |
| 2023 Predicted with Lidl |             |           |      |     |
| 1 - A61 North            | 1.5         | 4.80      | 0.60 | A   |
| 2 - A633 Rotherham Road  | 12.2        | 89.96     | 0.97 | F   |
| 3 - A61 South            | 1.4         | 8.97      | 0.58 | A   |

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

## File summary

### File Description

|             |                                        |
|-------------|----------------------------------------|
| Title       | A61 Wakefield Road/A633 Rotherham Road |
| Location    | Mapplewell, Barnsley                   |
| Site number |                                        |
| Date        | 29/11/2017                             |
| Version     |                                        |
| Status      | (new file)                             |
| Identifier  |                                        |
| Client      | Netherton Building and Construction    |
| Jobnumber   | 14-114                                 |
| Enumerator  | BRYANGHALL\design                      |
| Description |                                        |

## Units

| Distance units | Speed units | Traffic units input | Traffic units results | Flow units | Average delay units | Total delay units | Rate of delay units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | PCU                 | PCU                   | perHour    | s                   | -Min              | perMin              |

### Analysis Options

| Mini-roundabout model | Calculate Queue Percentiles | Calculate residual capacity | RFC Threshold | Average Delay threshold (s) | Queue threshold (PCU) |
|-----------------------|-----------------------------|-----------------------------|---------------|-----------------------------|-----------------------|
| JUNCTIONS 9           |                             |                             | 0.85          | 36.00                       | 20.00                 |

### Analysis Set Details

| ID | Network flow scaling factor (%) |
|----|---------------------------------|
| A1 | 100.000                         |

### Demand Set Details

| ID  | Scenario name            | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|-----|--------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D10 | 2023 Predicted with Lidl | AM               | ONE HOUR             | 07:30              | 09:00               | 15                        |

# 2023 Predicted with Lidl, AM

## Data Errors and Warnings

| Severity | Area        | Item | Description                                                                                                            |
|----------|-------------|------|------------------------------------------------------------------------------------------------------------------------|
| Warning  | Vehicle Mix |      | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. |

## Junction Network

### Junctions

| Junction | Name     | Junction Type   | Junction Delay (s) | Junction LOS |
|----------|----------|-----------------|--------------------|--------------|
| 1        | untitled | Mini-roundabout | 25.65              | D            |

### Junction Network Options

| Driving side | Lighting       | Road surface   | In London |
|--------------|----------------|----------------|-----------|
| Left         | Normal/unknown | Normal/unknown |           |

## Arms

### Arms

| Arm | Name                | Description |
|-----|---------------------|-------------|
| 1   | A61 North           |             |
| 2   | A633 Rotherham Road |             |
| 3   | A61 South           |             |

### Mini Roundabout Geometry

| Arm                     | Approach road half-width (m) | Minimum approach road half-width (m) | Entry width (m) | Effective flare length (m) | Distance to next arm (m) | Entry corner kerb line distance (m) | Gradient over 50m (%) | Kerbed central island |
|-------------------------|------------------------------|--------------------------------------|-----------------|----------------------------|--------------------------|-------------------------------------|-----------------------|-----------------------|
| 1 - A61 North           | 4.50                         | 4.50                                 | 6.50            | 27.0                       | 20.00                    | 20.00                               | 0.0                   | ✓                     |
| 2 - A633 Rotherham Road | 4.00                         | 4.00                                 | 6.20            | 6.0                        | 9.70                     | 2.00                                | 0.0                   | ✓                     |
| 3 - A61 South           | 4.20                         | 4.20                                 | 5.10            | 1.5                        | 20.00                    | 20.00                               | 0.0                   | ✓                     |

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

| Arm                     | Final slope | Final intercept (PCU/hr) |
|-------------------------|-------------|--------------------------|
| 1 - A61 North           | 0.901       | 1905                     |
| 2 - A633 Rotherham Road | 0.556       | 970                      |
| 3 - A61 South           | 0.840       | 1381                     |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Demand

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

### Demand overview (Traffic)

| Arm                     | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-------------------------|------------|--------------|-------------------------|--------------------|
| 1 - A61 North           |            | ✓            | 1013                    | 100.000            |
| 2 - A633 Rotherham Road |            | ✓            | 461                     | 100.000            |
| 3 - A61 South           |            | ✓            | 512                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

| From                    | To |               |                         |               |
|-------------------------|----|---------------|-------------------------|---------------|
|                         |    | 1 - A61 North | 2 - A633 Rotherham Road | 3 - A61 South |
| 1 - A61 North           |    | 0             | 283                     | 730           |
| 2 - A633 Rotherham Road |    | 461           | 0                       | 0             |
| 3 - A61 South           |    | 471           | 41                      | 0             |

## Vehicle Mix

### Heavy Vehicle Percentages

| From                    | To |               |                         |               |
|-------------------------|----|---------------|-------------------------|---------------|
|                         |    | 1 - A61 North | 2 - A633 Rotherham Road | 3 - A61 South |
| 1 - A61 North           |    | 0             | 0                       | 0             |
| 2 - A633 Rotherham Road |    | 0             | 0                       | 0             |
| 3 - A61 South           |    | 0             | 0                       | 0             |

## Results

### Results Summary for whole modelled period

| Arm                     | Max RFC | Max delay (s) | Max Queue (PCU) | Max LOS |
|-------------------------|---------|---------------|-----------------|---------|
| 1 - A61 North           | 0.60    | 4.80          | 1.5             | A       |
| 2 - A633 Rotherham Road | 0.97    | 89.96         | 12.2            | F       |
| 3 - A61 South           | 0.58    | 8.97          | 1.4             | A       |

### Main Results for each time segment

#### 07:30 - 07:45

| Arm                     | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | LOS |
|-------------------------|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-----|
| 1 - A61 North           | 763                   | 31                        | 1878              | 0.406 | 760                 | 0.7             | 3.213     | A   |
| 2 - A633 Rotherham Road | 347                   | 548                       | 666               | 0.521 | 343                 | 1.1             | 11.015    | B   |
| 3 - A61 South           | 385                   | 343                       | 1093              | 0.353 | 383                 | 0.5             | 5.059     | A   |

#### 07:45 - 08:00

| Arm                     | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | LOS |
|-------------------------|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-----|
| 1 - A61 North           | 911                   | 37                        | 1872              | 0.486 | 910                 | 0.9             | 3.737     | A   |
| 2 - A633 Rotherham Road | 414                   | 656                       | 606               | 0.684 | 411                 | 2.0             | 18.081    | C   |
| 3 - A61 South           | 460                   | 411                       | 1036              | 0.444 | 459                 | 0.8             | 6.234     | A   |

#### 08:00 - 08:15

| Arm                     | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | LOS |
|-------------------------|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-----|
| 1 - A61 North           | 1115                  | 45                        | 1865              | 0.598 | 1113                | 1.5             | 4.777     | A   |
| 2 - A633 Rotherham Road | 508                   | 802                       | 524               | 0.968 | 479                 | 9.2             | 59.004    | F   |
| 3 - A61 South           | 564                   | 479                       | 978               | 0.576 | 562                 | 1.3             | 8.593     | A   |

### 08:15 - 08:30

| Arm                     | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | LOS |
|-------------------------|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-----|
| 1 - A61 North           | 1115                  | 45                        | 1865              | 0.598 | 1115                | 1.5             | 4.804     | A   |
| 2 - A633 Rotherham Road | 508                   | 804                       | 523               | 0.970 | 496                 | 12.2            | 89.961    | F   |
| 3 - A61 South           | 564                   | 496                       | 964               | 0.585 | 564                 | 1.4             | 8.973     | A   |

### 08:30 - 08:45

| Arm                     | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | LOS |
|-------------------------|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-----|
| 1 - A61 North           | 911                   | 37                        | 1872              | 0.487 | 913                 | 1.0             | 3.760     | A   |
| 2 - A633 Rotherham Road | 414                   | 658                       | 604               | 0.686 | 454                 | 2.3             | 29.089    | D   |
| 3 - A61 South           | 460                   | 454                       | 1000              | 0.460 | 462                 | 0.9             | 6.726     | A   |

### 08:45 - 09:00

| Arm                     | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | LOS |
|-------------------------|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-----|
| 1 - A61 North           | 763                   | 31                        | 1877              | 0.406 | 764                 | 0.7             | 3.235     | A   |
| 2 - A633 Rotherham Road | 347                   | 550                       | 664               | 0.523 | 352                 | 1.1             | 11.704    | B   |
| 3 - A61 South           | 385                   | 352                       | 1085              | 0.355 | 387                 | 0.6             | 5.165     | A   |

| Junctions 9                                                                                                                                                                 |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| ARCADY 9 - Roundabout Module                                                                                                                                                |  |  |  |
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**Filename:** A61 Wakefield Road-A633 Rotherham Road mini-Roundabout.j9

**Path:** Y:\2014\14-101 to 14-125\14-114 Former William Freeman Works, Mapplewell\Technical\2017 Transport Assessment\Junction Modelling\Junctions 9

**Report generation date:** 08/01/2018 09:07:37

## «2023 Predicted with Lidl, Saturday

- »Junction Network
- »Arms
- »Traffic Demand
- »Origin-Destination Data
- »Vehicle Mix
- »Results

## Summary of junction performance

|                          | Saturday    |           |      |     |
|--------------------------|-------------|-----------|------|-----|
|                          | Queue (PCU) | Delay (s) | RFC  | LOS |
| 2023 Predicted with Lidl |             |           |      |     |
| 1 - A61 North            | 1.6         | 5.00      | 0.61 | A   |
| 2 - A633 Rotherham Road  | 3.4         | 28.98     | 0.78 | D   |
| 3 - A61 South            | 4.3         | 19.47     | 0.82 | C   |

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

## File summary

### File Description

|             |                                        |
|-------------|----------------------------------------|
| Title       | A61 Wakefield Road/A633 Rotherham Road |
| Location    | Mapplewell, Barnsley                   |
| Site number |                                        |
| Date        | 29/11/2017                             |
| Version     |                                        |
| Status      | (new file)                             |
| Identifier  |                                        |
| Client      | Netherton Building and Construction    |
| Jobnumber   | 14-114                                 |
| Enumerator  | BRYANGHALL\design                      |
| Description |                                        |

## Units

| Distance units | Speed units | Traffic units input | Traffic units results | Flow units | Average delay units | Total delay units | Rate of delay units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | PCU                 | PCU                   | perHour    | s                   | -Min              | perMin              |

### Analysis Options

| Mini-roundabout model | Calculate Queue Percentiles | Calculate residual capacity | RFC Threshold | Average Delay threshold (s) | Queue threshold (PCU) |
|-----------------------|-----------------------------|-----------------------------|---------------|-----------------------------|-----------------------|
| JUNCTIONS 9           |                             |                             | 0.85          | 36.00                       | 20.00                 |

### Analysis Set Details

| ID | Network flow scaling factor (%) |
|----|---------------------------------|
| A1 | 100.000                         |

### Demand Set Details

| ID  | Scenario name            | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|-----|--------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|
| D12 | 2023 Predicted with Lidl | Saturday         | ONE HOUR             | 11:30              | 13:00               | 15                        |

# 2023 Predicted with Lidl, Saturday

## Data Errors and Warnings

| Severity | Area            | Item | Description                                                                                                                                                                                                                                 |
|----------|-----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Warning  | Mini-roundabout |      | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 81% of the total flow for the roundabout for one or more time segments] |
| Warning  | Vehicle Mix     |      | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.                                                                                                                      |

## Junction Network

### Junctions

| Junction | Name     | Junction Type   | Junction Delay (s) | Junction LOS |
|----------|----------|-----------------|--------------------|--------------|
| 1        | untitled | Mini-roundabout | 14.39              | B            |

### Junction Network Options

| Driving side | Lighting       | Road surface   | In London |
|--------------|----------------|----------------|-----------|
| Left         | Normal/unknown | Normal/unknown |           |

## Arms

### Arms

| Arm | Name                | Description |
|-----|---------------------|-------------|
| 1   | A61 North           |             |
| 2   | A633 Rotherham Road |             |
| 3   | A61 South           |             |

### Mini Roundabout Geometry

| Arm                     | Approach road half-width (m) | Minimum approach road half-width (m) | Entry width (m) | Effective flare length (m) | Distance to next arm (m) | Entry corner kerb line distance (m) | Gradient over 50m (%) | Kerbed central island |
|-------------------------|------------------------------|--------------------------------------|-----------------|----------------------------|--------------------------|-------------------------------------|-----------------------|-----------------------|
| 1 - A61 North           | 4.50                         | 4.50                                 | 6.50            | 27.0                       | 20.00                    | 20.00                               | 0.0                   | ✓                     |
| 2 - A633 Rotherham Road | 4.00                         | 4.00                                 | 6.20            | 6.0                        | 9.70                     | 2.00                                | 0.0                   | ✓                     |
| 3 - A61 South           | 4.20                         | 4.20                                 | 5.10            | 1.5                        | 20.00                    | 20.00                               | 0.0                   | ✓                     |

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

| Arm                     | Final slope | Final intercept (PCU/hr) |
|-------------------------|-------------|--------------------------|
| 1 - A61 North           | 0.901       | 1905                     |
| 2 - A633 Rotherham Road | 0.556       | 970                      |
| 3 - A61 South           | 0.840       | 1381                     |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Demand

| Vehicle mix source | PCU Factor for a HV (PCU) |
|--------------------|---------------------------|
| HV Percentages     | 2.00                      |

## Demand overview (Traffic)

| Arm                     | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-------------------------|------------|--------------|-------------------------|--------------------|
| 1 - A61 North           |            | ✓            | 1029                    | 100.000            |
| 2 - A633 Rotherham Road |            | ✓            | 400                     | 100.000            |
| 3 - A61 South           |            | ✓            | 754                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To                      |               |                         |               |
|------|-------------------------|---------------|-------------------------|---------------|
|      |                         | 1 - A61 North | 2 - A633 Rotherham Road | 3 - A61 South |
| From | 1 - A61 North           | 0             | 362                     | 667           |
|      | 2 - A633 Rotherham Road | 400           | 0                       | 0             |
|      | 3 - A61 South           | 701           | 53                      | 0             |
|      |                         |               |                         |               |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To                      |               |                         |               |
|------|-------------------------|---------------|-------------------------|---------------|
|      |                         | 1 - A61 North | 2 - A633 Rotherham Road | 3 - A61 South |
| From | 1 - A61 North           | 0             | 0                       | 0             |
|      | 2 - A633 Rotherham Road | 0             | 0                       | 0             |
|      | 3 - A61 South           | 0             | 0                       | 0             |
|      |                         |               |                         |               |

## Results

### Results Summary for whole modelled period

| Arm                     | Max RFC | Max delay (s) | Max Queue (PCU) | Max LOS |
|-------------------------|---------|---------------|-----------------|---------|
| 1 - A61 North           | 0.61    | 5.00          | 1.6             | A       |
| 2 - A633 Rotherham Road | 0.78    | 28.98         | 3.4             | D       |
| 3 - A61 South           | 0.82    | 19.47         | 4.3             | C       |

### Main Results for each time segment

#### 11:30 - 11:45

| Arm                     | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | LOS |
|-------------------------|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-----|
| 1 - A61 North           | 775                   | 40                        | 1869              | 0.414 | 772                 | 0.7             | 3.272     | A   |
| 2 - A633 Rotherham Road | 301                   | 500                       | 692               | 0.435 | 298                 | 0.8             | 9.075     | A   |
| 3 - A61 South           | 568                   | 298                       | 1130              | 0.502 | 564                 | 1.0             | 6.310     | A   |

#### 11:45 - 12:00

| Arm                     | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | LOS |
|-------------------------|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-----|
| 1 - A61 North           | 925                   | 47                        | 1862              | 0.497 | 924                 | 1.0             | 3.831     | A   |
| 2 - A633 Rotherham Road | 360                   | 599                       | 637               | 0.564 | 358                 | 1.3             | 12.785    | B   |
| 3 - A61 South           | 678                   | 358                       | 1080              | 0.627 | 675                 | 1.6             | 8.830     | A   |

### 12:00 - 12:15

| Arm                     | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | LOS |
|-------------------------|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-----|
| 1 - A61 North           | 1133                  | 58                        | 1853              | 0.611 | 1131                | 1.6             | 4.966     | A   |
| 2 - A633 Rotherham Road | 440                   | 733                       | 563               | 0.783 | 433                 | 3.2             | 26.263    | D   |
| 3 - A61 South           | 830                   | 433                       | 1017              | 0.816 | 821                 | 4.0             | 17.519    | C   |

### 12:15 - 12:30

| Arm                     | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | LOS |
|-------------------------|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-----|
| 1 - A61 North           | 1133                  | 58                        | 1853              | 0.612 | 1133                | 1.6             | 5.001     | A   |
| 2 - A633 Rotherham Road | 440                   | 734                       | 562               | 0.784 | 440                 | 3.4             | 28.982    | D   |
| 3 - A61 South           | 830                   | 440                       | 1011              | 0.821 | 829                 | 4.3             | 19.470    | C   |

### 12:30 - 12:45

| Arm                     | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | LOS |
|-------------------------|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-----|
| 1 - A61 North           | 925                   | 48                        | 1862              | 0.497 | 927                 | 1.0             | 3.863     | A   |
| 2 - A633 Rotherham Road | 360                   | 601                       | 636               | 0.565 | 368                 | 1.3             | 13.806    | B   |
| 3 - A61 South           | 678                   | 368                       | 1072              | 0.632 | 688                 | 1.8             | 9.615     | A   |

### 12:45 - 13:00

| Arm                     | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | LOS |
|-------------------------|-----------------------|---------------------------|-------------------|-------|---------------------|-----------------|-----------|-----|
| 1 - A61 North           | 775                   | 40                        | 1869              | 0.414 | 776                 | 0.7             | 3.295     | A   |
| 2 - A633 Rotherham Road | 301                   | 503                       | 690               | 0.436 | 303                 | 0.8             | 9.353     | A   |
| 3 - A61 South           | 568                   | 303                       | 1126              | 0.504 | 571                 | 1.0             | 6.518     | A   |

| Junctions 8                                                                                                                                                                 |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| PICADY 8 - Priority Intersection Module                                                                                                                                     |  |  |  |  |
| Version: 8.0.5.523 [19102,19/06/2015]<br>© Copyright TRL Limited, 2018                                                                                                      |  |  |  |  |
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**Filename:** Left Turn from Rotherham Road to Wakefield Road.arc8

**Path:** Y:\2014\14-101 to 14-125\14-114 Former William Freeman Works, Mapplewell\Technical\2017 Transport Assessment\Junction Modelling\Junctions 8\Left Turn from Rotherham Road to Wakefield Road

**Report generation date:** 08/01/2018 09:16:04

## « (Default Analysis Set) - 2023 Predicted with Lidl, AM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

## Summary of junction performance

|                               | AM          |           |      |     |
|-------------------------------|-------------|-----------|------|-----|
|                               | Queue (PCU) | Delay (s) | RFC  | LOS |
| A1 - 2023 Predicted with Lidl |             |           |      |     |
| Stream B-AC                   | 0.39        | 9.23      | 0.28 | A   |
| Stream C-A                    | -           | -         | -    | -   |
| Stream C-B                    | 0.00        | 0.00      | 0.00 | A   |
| Stream A-B                    | -           | -         | -    | -   |
| Stream A-C                    | -           | -         | -    | -   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2017 Existing, AM" model duration: 07:30 - 09:00

"D2 - 2017 Existing, PM" model duration: 16:30 - 18:00

"D3 - 2017 Existing, Saturday" model duration: 16:30 - 18:00

"D4 - 2023 Base, AM" model duration: 07:30 - 09:00

"D5 - 2023 Base, PM" model duration: 16:30 - 18:00

"D6 - 2023 Base, Saturday" model duration: 16:30 - 18:00

"D7 - 2023 Predicted, AM" model duration: 07:30 - 09:00

"D8 - 2023 Predicted, PM" model duration: 16:30 - 18:00

"D9 - 2023 Predicted, Saturday" model duration: 16:30 - 18:00

"D10 - 2023 Predicted with Lidl, AM" model duration: 07:30 - 09:00

"D11 - 2023 Predicted with Lidl, PM" model duration: 16:30 - 18:00

"D12 - 2023 Predicted with Lidl, Saturday" model duration: 16:30 - 18:00

Run using Junctions 8.0.5.523 at 08/01/2018 09:16:04

## File summary

|             |                                                            |
|-------------|------------------------------------------------------------|
| Title       | Left Turn from Rotherham Road to Wakefield Road Southbound |
| Location    | Mapplewell, Barnsley                                       |
| Site Number |                                                            |
| Date        | 29/11/2017                                                 |
| Version     |                                                            |
| Status      | (new file)                                                 |
| Identifier  |                                                            |
| Client      | Netherton Building and Construction                        |
| Jobnumber   | 14-114                                                     |
| Enumerator  | johnturner                                                 |
| Description |                                                            |

## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | PCU                 | PCU                   | perHour    | s                   | -Min              | perMin              |

# (Default Analysis Set) - 2023 Predicted with Lidl, AM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

| Name                   | Roundabout Capacity Model | Description | Locked | Network Flow Scaling Factor (%) | Reason For Scaling Factors |
|------------------------|---------------------------|-------------|--------|---------------------------------|----------------------------|
| (Default Analysis Set) | N/A                       |             |        | 100.000                         |                            |

## Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Single Time Segment Only | Locked |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|--------------------------|--------|
| 2023 Predicted with Lidl, AM | 2023 Predicted with Lidl | AM               |             | ONE HOUR             | 07:30                    | 09:00                     | 90                             | 15                        |                          |        |

# Junction Network

## Junctions

| Junction | Name       | Junction Type | Major Road Direction | Arm Order | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|----------------------|-----------|--------------------|--------------|
| 1        | (untitled) | T-Junction    | Two-way              | A,B,C     | 9.23               | A            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Name                     | Arm | Name                     | Description | Arm Type |
|--------------------------|-----|--------------------------|-------------|----------|
| A61 North                | A   | A61 North                |             | Major    |
| Rotherham Road Left Turn | B   | Rotherham Road Left Turn |             | Minor    |
| A61 South                | C   | A61 South                |             | Major    |

## Major Arm Geometry

| Name      | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----------|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| A61 South | 8.00                     |                            | 0.00                                |                    | 2.20                     | 0.00                          |         |                      |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Name                     | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|--------------------------|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| Rotherham Road Left Turn | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 0                      | 15                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 1        | B-A    | 582.214            | 0.097         | 0.245         | 0.154         | 0.350         |
| 1        | B-C    | 760.204            | 0.106         | 0.269         | -             | -             |
| 1        | C-B    | 573.963            | 0.203         | 0.203         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Name                     | Profile Type | Use Turning Counts | Average Demand Flow (PCU/hr) | Flow Scaling Factor (%) |
|--------------------------|--------------|--------------------|------------------------------|-------------------------|
| A61 North                | ONE HOUR     | ✓                  | 730.00                       | 100.000                 |
| Rotherham Road Left Turn | ONE HOUR     | ✓                  | 140.00                       | 100.000                 |
| A61 South                | ONE HOUR     | ✓                  | 471.00                       | 100.000                 |

# Turning Proportions

## Turning Counts / Proportions (PCU/hr) - (untitled) (for whole period)

|      | To                       |           |                          |           |
|------|--------------------------|-----------|--------------------------|-----------|
|      |                          | A61 North | Rotherham Road Left Turn | A61 South |
| From | A61 North                | 0.000     | 0.000                    | 730.000   |
|      | Rotherham Road Left Turn | 0.000     | 0.000                    | 140.000   |
|      | A61 South                | 471.000   | 0.000                    | 0.000     |
|      |                          |           |                          |           |

## Turning Proportions (PCU) - (untitled) (for whole period)

|      | To                       |           |                          |           |
|------|--------------------------|-----------|--------------------------|-----------|
|      |                          | A61 North | Rotherham Road Left Turn | A61 South |
| From | A61 North                | 0.00      | 0.00                     | 1.00      |
|      | Rotherham Road Left Turn | 0.00      | 0.00                     | 1.00      |
|      | A61 South                | 1.00      | 0.00                     | 0.00      |
|      |                          |           |                          |           |

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

|      | To                       |           |                          |           |
|------|--------------------------|-----------|--------------------------|-----------|
|      |                          | A61 North | Rotherham Road Left Turn | A61 South |
| From | A61 North                | 1.000     | 1.000                    | 1.000     |
|      | Rotherham Road Left Turn | 1.000     | 1.000                    | 1.000     |
|      | A61 South                | 1.000     | 1.000                    | 1.000     |
|      |                          |           |                          |           |

## Heavy Vehicle Percentages - (untitled) (for whole period)

|      | To                       |           |                          |           |
|------|--------------------------|-----------|--------------------------|-----------|
|      |                          | A61 North | Rotherham Road Left Turn | A61 South |
| From | A61 North                | 0.0       | 0.0                      | 0.0       |
|      | Rotherham Road Left Turn | 0.0       | 0.0                      | 0.0       |
|      | A61 South                | 0.0       | 0.0                      | 0.0       |
|      |                          |           |                          |           |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|--------|---------|---------------|-----------------|---------|
| B-A-C  | 0.28    | 9.23          | 0.39            | A       |
| C-A    | -       | -             | -               | -       |
| C-B    | 0.00    | 0.00          | 0.00            | A       |
| A-B    | -       | -             | -               | -       |
| A-C    | -       | -             | -               | -       |

## Main Results for each time segment

### Main results: (07:30-07:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 105.40                | 104.58              | 0.00                       | 612.41            | 0.172 | 0.21            | 7.077     | A   |
| C-A    | 354.59                | 354.59              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 0.00                  | 0.00                | 0.00                       | 462.38            | 0.000 | 0.00            | 0.000     | A   |
| A-B    | 0.00                  | 0.00                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 549.58                | 549.58              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (07:45-08:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 125.86                | 125.59              | 0.00                       | 583.73            | 0.216 | 0.27            | 7.852     | A   |
| C-A    | 423.42                | 423.42              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 0.00                  | 0.00                | 0.00                       | 440.72            | 0.000 | 0.00            | 0.000     | A   |
| A-B    | 0.00                  | 0.00                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 656.26                | 656.26              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (08:00-08:15)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 154.14                | 153.67              | 0.00                       | 544.07            | 0.283 | 0.39            | 9.210     | A   |
| C-A    | 518.58                | 518.58              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 0.00                  | 0.00                | 0.00                       | 410.78            | 0.000 | 0.00            | 0.000     | A   |
| A-B    | 0.00                  | 0.00                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 803.74                | 803.74              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 154.14                | 154.13              | 0.00                       | 544.07            | 0.283 | 0.39            | 9.232     | A   |
| C-A    | 518.58                | 518.58              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 0.00                  | 0.00                | 0.00                       | 410.78            | 0.000 | 0.00            | 0.000     | A   |
| A-B    | 0.00                  | 0.00                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 803.74                | 803.74              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 125.86                | 126.32              | 0.00                       | 583.73            | 0.216 | 0.28            | 7.879     | A   |
| C-A    | 423.42                | 423.42              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 0.00                  | 0.00                | 0.00                       | 440.72            | 0.000 | 0.00            | 0.000     | A   |
| A-B    | 0.00                  | 0.00                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 656.26                | 656.26              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (08:45-09:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 105.40                | 105.67              | 0.00                       | 612.41            | 0.172 | 0.21            | 7.107     | A   |
| C-A    | 354.59                | 354.59              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 0.00                  | 0.00                | 0.00                       | 462.38            | 0.000 | 0.00            | 0.000     | A   |
| A-B    | 0.00                  | 0.00                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 549.58                | 549.58              | 0.00                       | -                 | -     | -               | -         | -   |

| Junctions 8                                                                                                                                                                 |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| PICADY 8 - Priority Intersection Module                                                                                                                                     |  |  |  |  |
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**Filename:** Left Turn from Rotherham Road to Wakefield Road.arc8

**Path:** Y:\2014\14-101 to 14-125\14-114 Former William Freeman Works, Mapplewell\Technical\2017 Transport Assessment\Junction Modelling\Junctions 8\Left Turn from Rotherham Road to Wakefield Road

**Report generation date:** 08/01/2018 09:16:28

## « (Default Analysis Set) - 2023 Predicted with Lidl, PM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

## Summary of junction performance

|                               | PM          |           |      |     |
|-------------------------------|-------------|-----------|------|-----|
|                               | Queue (PCU) | Delay (s) | RFC  | LOS |
| A1 - 2023 Predicted with Lidl |             |           |      |     |
| Stream B-AC                   | 0.12        | 6.62      | 0.11 | A   |
| Stream C-A                    | -           | -         | -    | -   |
| Stream C-B                    | 0.00        | 0.00      | 0.00 | A   |
| Stream A-B                    | -           | -         | -    | -   |
| Stream A-C                    | -           | -         | -    | -   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2017 Existing, AM" model duration: 07:30 - 09:00

"D2 - 2017 Existing, PM" model duration: 16:30 - 18:00

"D3 - 2017 Existing, Saturday" model duration: 16:30 - 18:00

"D4 - 2023 Base, AM" model duration: 07:30 - 09:00

"D5 - 2023 Base, PM" model duration: 16:30 - 18:00

"D6 - 2023 Base, Saturday" model duration: 16:30 - 18:00

"D7 - 2023 Predicted, AM" model duration: 07:30 - 09:00

"D8 - 2023 Predicted, PM" model duration: 16:30 - 18:00

"D9 - 2023 Predicted, Saturday" model duration: 16:30 - 18:00

"D10 - 2023 Predicted with Lidl, AM" model duration: 07:30 - 09:00

"D11 - 2023 Predicted with Lidl, PM " model duration: 16:30 - 18:00

"D12 - 2023 Predicted with Lidl, Saturday" model duration: 16:30 - 18:00

Run using Junctions 8.0.5.523 at 08/01/2018 09:16:28

## File summary

|             |                                                            |
|-------------|------------------------------------------------------------|
| Title       | Left Turn from Rotherham Road to Wakefield Road Southbound |
| Location    | Mapplewell, Barnsley                                       |
| Site Number |                                                            |
| Date        | 29/11/2017                                                 |
| Version     |                                                            |
| Status      | (new file)                                                 |
| Identifier  |                                                            |
| Client      | Netherton Building and Construction                        |
| Jobnumber   | 14-114                                                     |
| Enumerator  | johnturner                                                 |
| Description |                                                            |

## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | PCU                 | PCU                   | perHour    | s                   | -Min              | perMin              |

# (Default Analysis Set) - 2023 Predicted with Lidl, PM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

| Name                   | Roundabout Capacity Model | Description | Locked | Network Flow Scaling Factor (%) | Reason For Scaling Factors |
|------------------------|---------------------------|-------------|--------|---------------------------------|----------------------------|
| (Default Analysis Set) | N/A                       |             |        | 100.000                         |                            |

## Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Single Time Segment Only | Locked |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|--------------------------|--------|
| 2023 Predicted with Lidl, PM | 2023 Predicted with Lidl | PM               |             | ONE HOUR             | 16:30                    | 18:00                     | 90                             | 15                        |                          |        |

# Junction Network

## Junctions

| Junction | Name       | Junction Type | Major Road Direction | Arm Order | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|----------------------|-----------|--------------------|--------------|
| 1        | (untitled) | T-Junction    | Two-way              | A,B,C     | 6.62               | A            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Name                     | Arm | Name                     | Description | Arm Type |
|--------------------------|-----|--------------------------|-------------|----------|
| A61 North                | A   | A61 North                |             | Major    |
| Rotherham Road Left Turn | B   | Rotherham Road Left Turn |             | Minor    |
| A61 South                | C   | A61 South                |             | Major    |

## Major Arm Geometry

| Name      | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----------|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| A61 South | 8.00                     |                            | 0.00                                |                    | 2.20                     | 0.00                          |         |                      |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Name                     | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|--------------------------|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| Rotherham Road Left Turn | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 0                      | 15                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 1        | B-A    | 582.214            | 0.097         | 0.245         | 0.154         | 0.350         |
| 1        | B-C    | 760.204            | 0.106         | 0.269         | -             | -             |
| 1        | C-B    | 573.963            | 0.203         | 0.203         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Name                     | Profile Type | Use Turning Counts | Average Demand Flow (PCU/hr) | Flow Scaling Factor (%) |
|--------------------------|--------------|--------------------|------------------------------|-------------------------|
| A61 North                | ONE HOUR     | ✓                  | 508.00                       | 100.000                 |
| Rotherham Road Left Turn | ONE HOUR     | ✓                  | 60.00                        | 100.000                 |
| A61 South                | ONE HOUR     | ✓                  | 784.00                       | 100.000                 |

# Turning Proportions

## Turning Counts / Proportions (PCU/hr) - (untitled) (for whole period)

|      | To                       |           |                          |           |
|------|--------------------------|-----------|--------------------------|-----------|
|      |                          | A61 North | Rotherham Road Left Turn | A61 South |
| From | A61 North                | 0.000     | 0.000                    | 508.000   |
|      | Rotherham Road Left Turn | 0.000     | 0.000                    | 60.000    |
|      | A61 South                | 784.000   | 0.000                    | 0.000     |
|      |                          |           |                          |           |

## Turning Proportions (PCU) - (untitled) (for whole period)

|      | To                       |           |                          |           |
|------|--------------------------|-----------|--------------------------|-----------|
|      |                          | A61 North | Rotherham Road Left Turn | A61 South |
| From | A61 North                | 0.00      | 0.00                     | 1.00      |
|      | Rotherham Road Left Turn | 0.00      | 0.00                     | 1.00      |
|      | A61 South                | 1.00      | 0.00                     | 0.00      |
|      |                          |           |                          |           |

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

|      | To                       |           |                          |           |
|------|--------------------------|-----------|--------------------------|-----------|
|      |                          | A61 North | Rotherham Road Left Turn | A61 South |
| From | A61 North                | 1.000     | 1.000                    | 1.000     |
|      | Rotherham Road Left Turn | 1.000     | 1.000                    | 1.000     |
|      | A61 South                | 1.000     | 1.000                    | 1.000     |
|      |                          |           |                          |           |

## Heavy Vehicle Percentages - (untitled) (for whole period)

|      | To                       |           |                          |           |
|------|--------------------------|-----------|--------------------------|-----------|
|      |                          | A61 North | Rotherham Road Left Turn | A61 South |
| From | A61 North                | 0.0       | 0.0                      | 0.0       |
|      | Rotherham Road Left Turn | 0.0       | 0.0                      | 0.0       |
|      | A61 South                | 0.0       | 0.0                      | 0.0       |
|      |                          |           |                          |           |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|--------|---------|---------------|-----------------|---------|
| B-A-C  | 0.11    | 6.62          | 0.12            | A       |
| C-A    | -       | -             | -               | -       |
| C-B    | 0.00    | 0.00          | 0.00            | A       |
| A-B    | -       | -             | -               | -       |
| A-C    | -       | -             | -               | -       |

## Main Results for each time segment

### Main results: (16:30-16:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 45.17                 | 44.88               | 0.00                       | 657.36            | 0.069 | 0.07            | 5.875     | A   |
| C-A    | 590.24                | 590.24              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 0.00                  | 0.00                | 0.00                       | 496.31            | 0.000 | 0.00            | 0.000     | A   |
| A-B    | 0.00                  | 0.00                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 382.45                | 382.45              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (16:45-17:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 53.94                 | 53.86               | 0.00                       | 637.40            | 0.085 | 0.09            | 6.169     | A   |
| C-A    | 704.80                | 704.80              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 0.00                  | 0.00                | 0.00                       | 481.24            | 0.000 | 0.00            | 0.000     | A   |
| A-B    | 0.00                  | 0.00                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 456.68                | 456.68              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (17:00-17:15)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 66.06                 | 65.95               | 0.00                       | 609.80            | 0.108 | 0.12            | 6.617     | A   |
| C-A    | 863.20                | 863.20              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 0.00                  | 0.00                | 0.00                       | 460.40            | 0.000 | 0.00            | 0.000     | A   |
| A-B    | 0.00                  | 0.00                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 559.32                | 559.32              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 66.06                 | 66.06               | 0.00                       | 609.80            | 0.108 | 0.12            | 6.620     | A   |
| C-A    | 863.20                | 863.20              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 0.00                  | 0.00                | 0.00                       | 460.40            | 0.000 | 0.00            | 0.000     | A   |
| A-B    | 0.00                  | 0.00                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 559.32                | 559.32              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 53.94                 | 54.05               | 0.00                       | 637.40            | 0.085 | 0.09            | 6.174     | A   |
| C-A    | 704.80                | 704.80              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 0.00                  | 0.00                | 0.00                       | 481.24            | 0.000 | 0.00            | 0.000     | A   |
| A-B    | 0.00                  | 0.00                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 456.68                | 456.68              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (17:45-18:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 45.17                 | 45.25               | 0.00                       | 657.36            | 0.069 | 0.07            | 5.883     | A   |
| C-A    | 590.24                | 590.24              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 0.00                  | 0.00                | 0.00                       | 496.31            | 0.000 | 0.00            | 0.000     | A   |
| A-B    | 0.00                  | 0.00                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 382.45                | 382.45              | 0.00                       | -                 | -     | -               | -         | -   |

| Junctions 8                                                                                                                                                                 |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| PICADY 8 - Priority Intersection Module                                                                                                                                     |  |  |  |  |
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**Filename:** Left Turn from Rotherham Road to Wakefield Road.arc8

**Path:** Y:\2014\14-101 to 14-125\14-114 Former William Freeman Works, Mapplewell\Technical\2017 Transport Assessment\Junction Modelling\Junctions 8\Left Turn from Rotherham Road to Wakefield Road

**Report generation date:** 08/01/2018 09:17:45

## « (Default Analysis Set) - 2023 Predicted with Lidl, Saturday

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

## Summary of junction performance

|                               | Saturday    |           |      |     |
|-------------------------------|-------------|-----------|------|-----|
|                               | Queue (PCU) | Delay (s) | RFC  | LOS |
| A1 - 2023 Predicted with Lidl |             |           |      |     |
| Stream B-AC                   | 0.16        | 7.42      | 0.14 | A   |
| Stream C-A                    | -           | -         | -    | -   |
| Stream C-B                    | 0.00        | 0.00      | 0.00 | A   |
| Stream A-B                    | -           | -         | -    | -   |
| Stream A-C                    | -           | -         | -    | -   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2017 Existing, AM" model duration: 07:30 - 09:00

"D2 - 2017 Existing, PM" model duration: 16:30 - 18:00

"D3 - 2017 Existing, Saturday" model duration: 16:30 - 18:00

"D4 - 2023 Base, AM" model duration: 07:30 - 09:00

"D5 - 2023 Base, PM" model duration: 16:30 - 18:00

"D6 - 2023 Base, Saturday" model duration: 16:30 - 18:00

"D7 - 2023 Predicted, AM" model duration: 07:30 - 09:00

"D8 - 2023 Predicted, PM" model duration: 16:30 - 18:00

"D9 - 2023 Predicted, Saturday" model duration: 16:30 - 18:00

"D10 - 2023 Predicted with Lidl, AM" model duration: 07:30 - 09:00

"D11 - 2023 Predicted with Lidl, PM" model duration: 16:30 - 18:00

"D12 - 2023 Predicted with Lidl, Saturday" model duration: 16:30 - 18:00

Run using Junctions 8.0.5.523 at 08/01/2018 09:17:44

## File summary

|             |                                                            |
|-------------|------------------------------------------------------------|
| Title       | Left Turn from Rotherham Road to Wakefield Road Southbound |
| Location    | Mapplewell, Barnsley                                       |
| Site Number |                                                            |
| Date        | 29/11/2017                                                 |
| Version     |                                                            |
| Status      | (new file)                                                 |
| Identifier  |                                                            |
| Client      | Netherton Building and Construction                        |
| Jobnumber   | 14-114                                                     |
| Enumerator  | johnturner                                                 |
| Description |                                                            |

## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | PCU                 | PCU                   | perHour    | s                   | -Min              | perMin              |

# (Default Analysis Set) - 2023 Predicted with Lidl, Saturday

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

| Name                   | Roundabout Capacity Model | Description | Locked | Network Flow Scaling Factor (%) | Reason For Scaling Factors |
|------------------------|---------------------------|-------------|--------|---------------------------------|----------------------------|
| (Default Analysis Set) | N/A                       |             |        | 100.000                         |                            |

## Demand Set Details

| Name                               | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Single Time Segment Only | Locked |
|------------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|--------------------------|--------|
| 2023 Predicted with Lidl, Saturday | 2023 Predicted with Lidl | Saturday         |             | ONE HOUR             | 16:30                    | 18:00                     | 90                             | 15                        |                          |        |

# Junction Network

## Junctions

| Junction | Name       | Junction Type | Major Road Direction | Arm Order | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|----------------------|-----------|--------------------|--------------|
| 1        | (untitled) | T-Junction    | Two-way              | A,B,C     | 7.42               | A            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Name                     | Arm | Name                     | Description | Arm Type |
|--------------------------|-----|--------------------------|-------------|----------|
| A61 North                | A   | A61 North                |             | Major    |
| Rotherham Road Left Turn | B   | Rotherham Road Left Turn |             | Minor    |
| A61 South                | C   | A61 South                |             | Major    |

## Major Arm Geometry

| Name      | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----------|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| A61 South | 8.00                     |                            | 0.00                                |                    | 2.20                     | 0.00                          |         |                      |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Name                     | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|--------------------------|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| Rotherham Road Left Turn | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 0                      | 15                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 1        | B-A    | 582.214            | 0.097         | 0.245         | 0.154         | 0.350         |
| 1        | B-C    | 760.204            | 0.106         | 0.269         | -             | -             |
| 1        | C-B    | 573.963            | 0.203         | 0.203         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Name                     | Profile Type | Use Turning Counts | Average Demand Flow (PCU/hr) | Flow Scaling Factor (%) |
|--------------------------|--------------|--------------------|------------------------------|-------------------------|
| A61 North                | ONE HOUR     | ✓                  | 668.00                       | 100.000                 |
| Rotherham Road Left Turn | ONE HOUR     | ✓                  | 70.00                        | 100.000                 |
| A61 South                | ONE HOUR     | ✓                  | 701.00                       | 100.000                 |

# Turning Proportions

## Turning Counts / Proportions (PCU/hr) - (untitled) (for whole period)

|      | To                       |           |                          |           |
|------|--------------------------|-----------|--------------------------|-----------|
|      |                          | A61 North | Rotherham Road Left Turn | A61 South |
| From | A61 North                | 0.000     | 0.000                    | 668.000   |
|      | Rotherham Road Left Turn | 0.000     | 0.000                    | 70.000    |
|      | A61 South                | 701.000   | 0.000                    | 0.000     |
|      |                          |           |                          |           |

## Turning Proportions (PCU) - (untitled) (for whole period)

|      | To                       |           |                          |           |
|------|--------------------------|-----------|--------------------------|-----------|
|      |                          | A61 North | Rotherham Road Left Turn | A61 South |
| From | A61 North                | 0.00      | 0.00                     | 1.00      |
|      | Rotherham Road Left Turn | 0.00      | 0.00                     | 1.00      |
|      | A61 South                | 1.00      | 0.00                     | 0.00      |
|      |                          |           |                          |           |

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

|      | To                       |           |                          |           |
|------|--------------------------|-----------|--------------------------|-----------|
|      |                          | A61 North | Rotherham Road Left Turn | A61 South |
| From | A61 North                | 1.000     | 1.000                    | 1.000     |
|      | Rotherham Road Left Turn | 1.000     | 1.000                    | 1.000     |
|      | A61 South                | 1.000     | 1.000                    | 1.000     |
|      |                          |           |                          |           |

## Heavy Vehicle Percentages - (untitled) (for whole period)

|      | To                       |           |                          |           |
|------|--------------------------|-----------|--------------------------|-----------|
|      |                          | A61 North | Rotherham Road Left Turn | A61 South |
| From | A61 North                | 0.0       | 0.0                      | 0.0       |
|      | Rotherham Road Left Turn | 0.0       | 0.0                      | 0.0       |
|      | A61 South                | 0.0       | 0.0                      | 0.0       |
|      |                          |           |                          |           |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|--------|---------|---------------|-----------------|---------|
| B-A-C  | 0.14    | 7.42          | 0.16            | A       |
| C-A    | -       | -             | -               | -       |
| C-B    | 0.00    | 0.00          | 0.00            | A       |
| A-B    | -       | -             | -               | -       |
| A-C    | -       | -             | -               | -       |

## Main Results for each time segment

### Main results: (16:30-16:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 52.70                 | 52.33               | 0.00                       | 624.97            | 0.084 | 0.09            | 6.282     | A   |
| C-A    | 527.75                | 527.75              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 0.00                  | 0.00                | 0.00                       | 471.86            | 0.000 | 0.00            | 0.000     | A   |
| A-B    | 0.00                  | 0.00                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 502.91                | 502.91              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (16:45-17:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 62.93                 | 62.83               | 0.00                       | 598.72            | 0.105 | 0.12            | 6.718     | A   |
| C-A    | 630.18                | 630.18              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 0.00                  | 0.00                | 0.00                       | 452.04            | 0.000 | 0.00            | 0.000     | A   |
| A-B    | 0.00                  | 0.00                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 600.52                | 600.52              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (17:00-17:15)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 77.07                 | 76.91               | 0.00                       | 562.42            | 0.137 | 0.16            | 7.413     | A   |
| C-A    | 771.82                | 771.82              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 0.00                  | 0.00                | 0.00                       | 424.64            | 0.000 | 0.00            | 0.000     | A   |
| A-B    | 0.00                  | 0.00                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 735.48                | 735.48              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 77.07                 | 77.07               | 0.00                       | 562.42            | 0.137 | 0.16            | 7.416     | A   |
| C-A    | 771.82                | 771.82              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 0.00                  | 0.00                | 0.00                       | 424.64            | 0.000 | 0.00            | 0.000     | A   |
| A-B    | 0.00                  | 0.00                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 735.48                | 735.48              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 62.93                 | 63.09               | 0.00                       | 598.72            | 0.105 | 0.12            | 6.722     | A   |
| C-A    | 630.18                | 630.18              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 0.00                  | 0.00                | 0.00                       | 452.04            | 0.000 | 0.00            | 0.000     | A   |
| A-B    | 0.00                  | 0.00                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 600.52                | 600.52              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (17:45-18:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 52.70                 | 52.80               | 0.00                       | 624.97            | 0.084 | 0.09            | 6.294     | A   |
| C-A    | 527.75                | 527.75              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 0.00                  | 0.00                | 0.00                       | 471.86            | 0.000 | 0.00            | 0.000     | A   |
| A-B    | 0.00                  | 0.00                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 502.91                | 502.91              | 0.00                       | -                 | -     | -               | -         | -   |

| Junctions 8                                                                                                                                                                 |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| PICADY 8 - Priority Intersection Module                                                                                                                                     |  |  |  |
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**Filename:** Site Access-Wakefield Road.arc8

**Path:** Y:\2014\14-101 to 14-125\14-114 Former William Freeman Works, Mapplewell\Technical\2017 Transport Assessment\Junction Modelling\Junctions 8\Site Access - Wakefield Road

**Report generation date:** 08/01/2018 09:43:44

## « (Default Analysis Set) - 2023 Predicted with Lidl, AM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

## Summary of junction performance

|                               | AM          |           |      |     |
|-------------------------------|-------------|-----------|------|-----|
|                               | Queue (PCU) | Delay (s) | RFC  | LOS |
| A1 - 2023 Predicted with Lidl |             |           |      |     |
| Stream B-AC                   | 0.11        | 11.55     | 0.10 | B   |
| Stream C-A                    | -           | -         | -    | -   |
| Stream C-B                    | 0.02        | 7.10      | 0.02 | A   |
| Stream A-B                    | -           | -         | -    | -   |
| Stream A-C                    | -           | -         | -    | -   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2023 Predicted, AM" model duration: 07:30 - 09:00

"D2 - 2023 Predicted, PM" model duration: 16:30 - 18:00

"D3 - 2023 Predicted, Saturday" model duration: 11:30 - 13:00

"D4 - 2023 Predicted with Lidl, AM " model duration: 07:30 - 09:00

"D5 - 2023 Predicted with Lidl, PM" model duration: 16:30 - 18:00

"D6 - 2023 Predicted with Lidl, Saturday" model duration: 11:30 - 13:00

Run using Junctions 8.0.5.523 at 08/01/2018 09:43:44

## File summary

|             |                                          |
|-------------|------------------------------------------|
| Title       | Site Access junction with Wakefield Road |
| Location    | Wakefield Road, Mapplewell               |
| Site Number |                                          |
| Date        | 05/12/2017                               |
| Version     |                                          |
| Status      | (new file)                               |
| Identifier  |                                          |
| Client      |                                          |
| Jobnumber   | 14-114                                   |
| Enumerator  | johnturner                               |
| Description |                                          |

## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | PCU                 | PCU                   | perHour    | s                   | -Min              | perMin              |

# (Default Analysis Set) - 2023 Predicted with Lidl, AM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

| Name                   | Roundabout Capacity Model | Description | Locked | Network Flow Scaling Factor (%) | Reason For Scaling Factors |
|------------------------|---------------------------|-------------|--------|---------------------------------|----------------------------|
| (Default Analysis Set) | N/A                       |             |        | 100.000                         |                            |

## Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Single Time Segment Only | Locked |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|--------------------------|--------|
| 2023 Predicted with Lidl, AM | 2023 Predicted with Lidl | AM               |             | ONE HOUR             | 07:30                    | 09:00                     | 90                             | 15                        |                          |        |

# Junction Network

## Junctions

| Junction | Name       | Junction Type | Major Road Direction | Arm Order | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|----------------------|-----------|--------------------|--------------|
| 1        | (untitled) | T-Junction    | Two-way              | A,B,C     | 10.63              | B            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Name                 | Arm | Name                 | Description | Arm Type |
|----------------------|-----|----------------------|-------------|----------|
| Wakefield Road North | A   | Wakefield Road North |             | Major    |
| Site Access          | B   | Site Access          |             | Minor    |
| Wakefield Road South | C   | Wakefield Road South |             | Major    |

## Major Arm Geometry

| Name                 | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|----------------------|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| Wakefield Road South | 6.00                     |                            | 0.00                                | ✓                  | 3.00                     | 100.00                        |         |                      |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Name        | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-------------|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| Site Access | One lane       | 2.75           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 50                     | 50                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 1        | B-A    | 505.529            | 0.092         | 0.233         | 0.146         | 0.332         |
| 1        | B-C    | 639.009            | 0.098         | 0.248         | -             | -             |
| 1        | C-B    | 686.890            | 0.266         | 0.266         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Name                 | Profile Type | Use Turning Counts | Average Demand Flow (PCU/hr) | Flow Scaling Factor (%) |
|----------------------|--------------|--------------------|------------------------------|-------------------------|
| Wakefield Road North | ONE HOUR     | ✓                  | 583.00                       | 100.000                 |
| Site Access          | ONE HOUR     | ✓                  | 31.00                        | 100.000                 |
| Wakefield Road South | ONE HOUR     | ✓                  | 783.00                       | 100.000                 |

# Turning Proportions

## Turning Counts / Proportions (PCU/hr) - (untitled) (for whole period)

|      | To                   |                      |             |                      |
|------|----------------------|----------------------|-------------|----------------------|
|      |                      | Wakefield Road North | Site Access | Wakefield Road South |
| From | Wakefield Road North | 0.000                | 5.000       | 578.000              |
|      | Site Access          | 11.000               | 0.000       | 20.000               |
|      | Wakefield Road South | 775.000              | 8.000       | 0.000                |

## Turning Proportions (PCU) - (untitled) (for whole period)

|      | To                   |                      |             |                      |
|------|----------------------|----------------------|-------------|----------------------|
|      |                      | Wakefield Road North | Site Access | Wakefield Road South |
| From | Wakefield Road North | 0.00                 | 0.01        | 0.99                 |
|      | Site Access          | 0.35                 | 0.00        | 0.65                 |
|      | Wakefield Road South | 0.99                 | 0.01        | 0.00                 |

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

|      | To                   |                      |             |                      |
|------|----------------------|----------------------|-------------|----------------------|
|      |                      | Wakefield Road North | Site Access | Wakefield Road South |
| From | Wakefield Road North | 1.000                | 1.000       | 1.000                |
|      | Site Access          | 1.000                | 1.000       | 1.000                |
|      | Wakefield Road South | 1.000                | 1.000       | 1.000                |

## Heavy Vehicle Percentages - (untitled) (for whole period)

|      | To                   |                      |             |                      |
|------|----------------------|----------------------|-------------|----------------------|
|      |                      | Wakefield Road North | Site Access | Wakefield Road South |
| From | Wakefield Road North | 0.0                  | 0.0         | 0.0                  |
|      | Site Access          | 0.0                  | 0.0         | 0.0                  |
|      | Wakefield Road South | 0.0                  | 0.0         | 0.0                  |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|--------|---------|---------------|-----------------|---------|
| B-A-C  | 0.10    | 11.55         | 0.11            | B       |
| C-A    | -       | -             | -               | -       |
| C-B    | 0.02    | 7.10          | 0.02            | A       |
| A-B    | -       | -             | -               | -       |
| A-C    | -       | -             | -               | -       |

## Main Results for each time segment

### Main results: (07:30-07:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 23.34                 | 23.11               | 0.00                       | 428.01            | 0.055 | 0.06            | 8.887     | A   |
| C-A    | 583.46                | 583.46              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 6.02                  | 5.98                | 0.00                       | 570.08            | 0.011 | 0.01            | 6.381     | A   |
| A-B    | 3.76                  | 3.76                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 435.15                | 435.15              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (07:45-08:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 27.87                 | 27.80               | 0.00                       | 394.71            | 0.071 | 0.08            | 9.808     | A   |
| C-A    | 696.71                | 696.71              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 7.19                  | 7.18                | 0.00                       | 547.41            | 0.013 | 0.01            | 6.663     | A   |
| A-B    | 4.49                  | 4.49                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 519.61                | 519.61              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (08:00-08:15)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 34.13                 | 34.00               | 0.00                       | 345.92            | 0.099 | 0.11            | 11.536    | B   |
| C-A    | 853.29                | 853.29              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 8.81                  | 8.79                | 0.00                       | 516.06            | 0.017 | 0.02            | 7.096     | A   |
| A-B    | 5.51                  | 5.51                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 636.39                | 636.39              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 34.13                 | 34.13               | 0.00                       | 345.92            | 0.099 | 0.11            | 11.545    | B   |
| C-A    | 853.29                | 853.29              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 8.81                  | 8.81                | 0.00                       | 516.06            | 0.017 | 0.02            | 7.096     | A   |
| A-B    | 5.51                  | 5.51                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 636.39                | 636.39              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 27.87                 | 28.00               | 0.00                       | 394.70            | 0.071 | 0.08            | 9.822     | A   |
| C-A    | 696.71                | 696.71              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 7.19                  | 7.21                | 0.00                       | 547.41            | 0.013 | 0.01            | 6.663     | A   |
| A-B    | 4.49                  | 4.49                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 519.61                | 519.61              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (08:45-09:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 23.34                 | 23.41               | 0.00                       | 427.99            | 0.055 | 0.06            | 8.899     | A   |
| C-A    | 583.46                | 583.46              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 6.02                  | 6.03                | 0.00                       | 570.08            | 0.011 | 0.01            | 6.381     | A   |
| A-B    | 3.76                  | 3.76                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 435.15                | 435.15              | 0.00                       | -                 | -     | -               | -         | -   |

| Junctions 8                                                                                                                                                                 |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| PICADY 8 - Priority Intersection Module                                                                                                                                     |  |  |  |  |
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**Filename:** Site Access-Wakefield Road.arc8

**Path:** Y:\2014\14-101 to 14-125\14-114 Former William Freeman Works, Mapplewell\Technical\2017 Transport Assessment\Junction Modelling\Junctions 8\Site Access - Wakefield Road

**Report generation date:** 08/01/2018 09:44:12

## « (Default Analysis Set) - 2023 Predicted with Lidl, PM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

## Summary of junction performance

|             | PM                            |           |      |     |
|-------------|-------------------------------|-----------|------|-----|
|             | Queue (PCU)                   | Delay (s) | RFC  | LOS |
|             | A1 - 2023 Predicted with Lidl |           |      |     |
| Stream B-AC | 0.05                          | 11.78     | 0.05 | B   |
| Stream C-A  | -                             | -         | -    | -   |
| Stream C-B  | 0.05                          | 7.89      | 0.04 | A   |
| Stream A-B  | -                             | -         | -    | -   |
| Stream A-C  | -                             | -         | -    | -   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2023 Predicted, AM" model duration: 07:30 - 09:00

"D2 - 2023 Predicted, PM" model duration: 16:30 - 18:00

"D3 - 2023 Predicted, Saturday" model duration: 11:30 - 13:00

"D4 - 2023 Predicted with Lidl, AM" model duration: 07:30 - 09:00

"D5 - 2023 Predicted with Lidl, PM " model duration: 16:30 - 18:00

"D6 - 2023 Predicted with Lidl, Saturday" model duration: 11:30 - 13:00

Run using Junctions 8.0.5.523 at 08/01/2018 09:44:12

## File summary

|             |                                          |
|-------------|------------------------------------------|
| Title       | Site Access junction with Wakefield Road |
| Location    | Wakefield Road, Mapplewell               |
| Site Number |                                          |
| Date        | 05/12/2017                               |
| Version     |                                          |
| Status      | (new file)                               |
| Identifier  |                                          |
| Client      |                                          |
| Jobnumber   | 14-114                                   |
| Enumerator  | johnturner                               |
| Description |                                          |

## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | PCU                 | PCU                   | perHour    | s                   | -Min              | perMin              |

# (Default Analysis Set) - 2023 Predicted with Lidl, PM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

| Name                   | Roundabout Capacity Model | Description | Locked | Network Flow Scaling Factor (%) | Reason For Scaling Factors |
|------------------------|---------------------------|-------------|--------|---------------------------------|----------------------------|
| (Default Analysis Set) | N/A                       |             |        | 100.000                         |                            |

## Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Single Time Segment Only | Locked |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|--------------------------|--------|
| 2023 Predicted with Lidl, PM | 2023 Predicted with Lidl | PM               |             | ONE HOUR             | 16:30                    | 18:00                     | 90                             | 15                        |                          |        |

# Junction Network

## Junctions

| Junction | Name       | Junction Type | Major Road Direction | Arm Order | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|----------------------|-----------|--------------------|--------------|
| 1        | (untitled) | T-Junction    | Two-way              | A,B,C     | 9.54               | A            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Name                 | Arm | Name                 | Description | Arm Type |
|----------------------|-----|----------------------|-------------|----------|
| Wakefield Road North | A   | Wakefield Road North |             | Major    |
| Site Access          | B   | Site Access          |             | Minor    |
| Wakefield Road South | C   | Wakefield Road South |             | Major    |

## Major Arm Geometry

| Name                 | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|----------------------|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| Wakefield Road South | 6.00                     |                            | 0.00                                | ✓                  | 3.00                     | 100.00                        |         |                      |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Name        | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-------------|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| Site Access | One lane       | 2.75           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 50                     | 50                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 1        | B-A    | 505.529            | 0.092         | 0.233         | 0.146         | 0.332         |
| 1        | B-C    | 639.009            | 0.098         | 0.248         | -             | -             |
| 1        | C-B    | 686.890            | 0.266         | 0.266         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Name                 | Profile Type | Use Turning Counts | Average Demand Flow (PCU/hr) | Flow Scaling Factor (%) |
|----------------------|--------------|--------------------|------------------------------|-------------------------|
| Wakefield Road North | ONE HOUR     | ✓                  | 716.00                       | 100.000                 |
| Site Access          | ONE HOUR     | ✓                  | 14.00                        | 100.000                 |
| Wakefield Road South | ONE HOUR     | ✓                  | 660.00                       | 100.000                 |

# Turning Proportions

## Turning Counts / Proportions (PCU/hr) - (untitled) (for whole period)

|      | To                   |                      |             |                      |
|------|----------------------|----------------------|-------------|----------------------|
|      |                      | Wakefield Road North | Site Access | Wakefield Road South |
| From | Wakefield Road North | 0.000                | 11.000      | 705.000              |
|      | Site Access          | 5.000                | 0.000       | 9.000                |
|      | Wakefield Road South | 641.000              | 19.000      | 0.000                |

## Turning Proportions (PCU) - (untitled) (for whole period)

|      | To                   |                      |             |                      |
|------|----------------------|----------------------|-------------|----------------------|
|      |                      | Wakefield Road North | Site Access | Wakefield Road South |
| From | Wakefield Road North | 0.00                 | 0.02        | 0.98                 |
|      | Site Access          | 0.36                 | 0.00        | 0.64                 |
|      | Wakefield Road South | 0.97                 | 0.03        | 0.00                 |

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

|      | To                   |                      |             |                      |
|------|----------------------|----------------------|-------------|----------------------|
|      |                      | Wakefield Road North | Site Access | Wakefield Road South |
| From | Wakefield Road North | 1.000                | 1.000       | 1.000                |
|      | Site Access          | 1.000                | 1.000       | 1.000                |
|      | Wakefield Road South | 1.000                | 1.000       | 1.000                |

## Heavy Vehicle Percentages - (untitled) (for whole period)

|      | To                   |                      |             |                      |
|------|----------------------|----------------------|-------------|----------------------|
|      |                      | Wakefield Road North | Site Access | Wakefield Road South |
| From | Wakefield Road North | 0.0                  | 0.0         | 0.0                  |
|      | Site Access          | 0.0                  | 0.0         | 0.0                  |
|      | Wakefield Road South | 0.0                  | 0.0         | 0.0                  |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|--------|---------|---------------|-----------------|---------|
| B-A-C  | 0.05    | 11.78         | 0.05            | B       |
| C-A    | -       | -             | -               | -       |
| C-B    | 0.04    | 7.89          | 0.05            | A       |
| A-B    | -       | -             | -               | -       |
| A-C    | -       | -             | -               | -       |

## Main Results for each time segment

### Main results: (16:30-16:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 10.54                 | 10.44               | 0.00                       | 410.46            | 0.026 | 0.03            | 8.997     | A   |
| C-A    | 482.58                | 482.58              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 14.30                 | 14.20               | 0.00                       | 543.43            | 0.026 | 0.03            | 6.800     | A   |
| A-B    | 8.28                  | 8.28                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 530.76                | 530.76              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (16:45-17:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 12.59                 | 12.55               | 0.00                       | 374.03            | 0.034 | 0.03            | 9.959     | A   |
| C-A    | 576.25                | 576.25              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 17.08                 | 17.05               | 0.00                       | 515.59            | 0.033 | 0.03            | 7.220     | A   |
| A-B    | 9.89                  | 9.89                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 633.78                | 633.78              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (17:00-17:15)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 15.41                 | 15.35               | 0.00                       | 320.94            | 0.048 | 0.05            | 11.776    | B   |
| C-A    | 705.75                | 705.75              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 20.92                 | 20.87               | 0.00                       | 477.09            | 0.044 | 0.05            | 7.890     | A   |
| A-B    | 12.11                 | 12.11               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 776.22                | 776.22              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 15.41                 | 15.41               | 0.00                       | 320.92            | 0.048 | 0.05            | 11.782    | B   |
| C-A    | 705.75                | 705.75              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 20.92                 | 20.92               | 0.00                       | 477.09            | 0.044 | 0.05            | 7.891     | A   |
| A-B    | 12.11                 | 12.11               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 776.22                | 776.22              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 12.59                 | 12.65               | 0.00                       | 374.01            | 0.034 | 0.04            | 9.963     | A   |
| C-A    | 576.25                | 576.25              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 17.08                 | 17.13               | 0.00                       | 515.59            | 0.033 | 0.03            | 7.224     | A   |
| A-B    | 9.89                  | 9.89                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 633.78                | 633.78              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (17:45-18:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 10.54                 | 10.57               | 0.00                       | 410.43            | 0.026 | 0.03            | 9.005     | A   |
| C-A    | 482.58                | 482.58              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 14.30                 | 14.33               | 0.00                       | 543.43            | 0.026 | 0.03            | 6.803     | A   |
| A-B    | 8.28                  | 8.28                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 530.76                | 530.76              | 0.00                       | -                 | -     | -               | -         | -   |

| Junctions 8                                                                                                                                                                 |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| PICADY 8 - Priority Intersection Module                                                                                                                                     |  |  |  |  |
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**Filename:** Site Access-Wakefield Road.arc8

**Path:** Y:\2014\14-101 to 14-125\14-114 Former William Freeman Works, Mapplewell\Technical\2017 Transport Assessment\Junction Modelling\Junctions 8\Site Access - Wakefield Road

**Report generation date:** 08/01/2018 09:44:47

## « (Default Analysis Set) - 2023 Predicted with Lidl, Saturday

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

## Summary of junction performance

|             | Saturday                      |           |      |     |
|-------------|-------------------------------|-----------|------|-----|
|             | Queue (PCU)                   | Delay (s) | RFC  | LOS |
|             | A1 - 2023 Predicted with Lidl |           |      |     |
| Stream B-AC | 0.11                          | 11.19     | 0.10 | B   |
| Stream C-A  | -                             | -         | -    | -   |
| Stream C-B  | 0.02                          | 7.20      | 0.02 | A   |
| Stream A-B  | -                             | -         | -    | -   |
| Stream A-C  | -                             | -         | -    | -   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2023 Predicted, AM" model duration: 07:30 - 09:00

"D2 - 2023 Predicted, PM" model duration: 16:30 - 18:00

"D3 - 2023 Predicted, Saturday" model duration: 11:30 - 13:00

"D4 - 2023 Predicted with Lidl, AM" model duration: 07:30 - 09:00

"D5 - 2023 Predicted with Lidl, PM" model duration: 16:30 - 18:00

"D6 - 2023 Predicted with Lidl, Saturday " model duration: 11:30 - 13:00

Run using Junctions 8.0.5.523 at 08/01/2018 09:44:47

## File summary

|             |                                          |
|-------------|------------------------------------------|
| Title       | Site Access junction with Wakefield Road |
| Location    | Wakefield Road, Mapplewell               |
| Site Number |                                          |
| Date        | 05/12/2017                               |
| Version     |                                          |
| Status      | (new file)                               |
| Identifier  |                                          |
| Client      |                                          |
| Jobnumber   | 14-114                                   |
| Enumerator  | johnturner                               |
| Description |                                          |

## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | PCU                 | PCU                   | perHour    | s                   | -Min              | perMin              |

# (Default Analysis Set) - 2023 Predicted with Lidl, Saturday

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

| Name                   | Roundabout Capacity Model | Description | Locked | Network Flow Scaling Factor (%) | Reason For Scaling Factors |
|------------------------|---------------------------|-------------|--------|---------------------------------|----------------------------|
| (Default Analysis Set) | N/A                       |             |        | 100.000                         |                            |

## Demand Set Details

| Name                               | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Single Time Segment Only | Locked |
|------------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|--------------------------|--------|
| 2023 Predicted with Lidl, Saturday | 2023 Predicted with Lidl | Saturday         |             | ONE HOUR             | 11:30                    | 13:00                     | 90                             | 15                        |                          |        |

# Junction Network

## Junctions

| Junction | Name       | Junction Type | Major Road Direction | Arm Order | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|----------------------|-----------|--------------------|--------------|
| 1        | (untitled) | T-Junction    | Two-way              | A,B,C     | 10.37              | B            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Name                 | Arm | Name                 | Description | Arm Type |
|----------------------|-----|----------------------|-------------|----------|
| Wakefield Road North | A   | Wakefield Road North |             | Major    |
| Site Access          | B   | Site Access          |             | Minor    |
| Wakefield Road South | C   | Wakefield Road South |             | Major    |

## Major Arm Geometry

| Name                 | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|----------------------|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| Wakefield Road South | 6.00                     |                            | 0.00                                | ✓                  | 3.00                     | 100.00                        |         |                      |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Name        | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-------------|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| Site Access | One lane       | 2.75           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 50                     | 50                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 1        | B-A    | 505.529            | 0.092         | 0.233         | 0.146         | 0.332         |
| 1        | B-C    | 639.009            | 0.098         | 0.248         | -             | -             |
| 1        | C-B    | 686.890            | 0.266         | 0.266         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Name                 | Profile Type | Use Turning Counts | Average Demand Flow (PCU/hr) | Flow Scaling Factor (%) |
|----------------------|--------------|--------------------|------------------------------|-------------------------|
| Wakefield Road North | ONE HOUR     | ✓                  | 608.00                       | 100.000                 |
| Site Access          | ONE HOUR     | ✓                  | 31.00                        | 100.000                 |
| Wakefield Road South | ONE HOUR     | ✓                  | 646.00                       | 100.000                 |

# Turning Proportions

## Turning Counts / Proportions (PCU/hr) - (untitled) (for whole period)

|      | To                   |                      |             |                      |
|------|----------------------|----------------------|-------------|----------------------|
|      |                      | Wakefield Road North | Site Access | Wakefield Road South |
| From | Wakefield Road North | 0.000                | 5.000       | 603.000              |
|      | Site Access          | 11.000               | 0.000       | 20.000               |
|      | Wakefield Road South | 638.000              | 8.000       | 0.000                |

## Turning Proportions (PCU) - (untitled) (for whole period)

|      | To                   |                      |             |                      |
|------|----------------------|----------------------|-------------|----------------------|
|      |                      | Wakefield Road North | Site Access | Wakefield Road South |
| From | Wakefield Road North | 0.00                 | 0.01        | 0.99                 |
|      | Site Access          | 0.35                 | 0.00        | 0.65                 |
|      | Wakefield Road South | 0.99                 | 0.01        | 0.00                 |

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

|      | To                   |                      |             |                      |
|------|----------------------|----------------------|-------------|----------------------|
|      |                      | Wakefield Road North | Site Access | Wakefield Road South |
| From | Wakefield Road North | 1.000                | 1.000       | 1.000                |
|      | Site Access          | 1.000                | 1.000       | 1.000                |
|      | Wakefield Road South | 1.000                | 1.000       | 1.000                |

## Heavy Vehicle Percentages - (untitled) (for whole period)

|      | To                   |                      |             |                      |
|------|----------------------|----------------------|-------------|----------------------|
|      |                      | Wakefield Road North | Site Access | Wakefield Road South |
| From | Wakefield Road North | 0.0                  | 0.0         | 0.0                  |
|      | Site Access          | 0.0                  | 0.0         | 0.0                  |
|      | Wakefield Road South | 0.0                  | 0.0         | 0.0                  |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|--------|---------|---------------|-----------------|---------|
| B-A-C  | 0.10    | 11.19         | 0.11            | B       |
| C-A    | -       | -             | -               | -       |
| C-B    | 0.02    | 7.20          | 0.02            | A       |
| A-B    | -       | -             | -               | -       |
| A-C    | -       | -             | -               | -       |

## Main Results for each time segment

### Main results: (11:30-11:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 23.34                 | 23.11               | 0.00                       | 432.82            | 0.054 | 0.06            | 8.782     | A   |
| C-A    | 480.32                | 480.32              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 6.02                  | 5.98                | 0.00                       | 565.07            | 0.011 | 0.01            | 6.438     | A   |
| A-B    | 3.76                  | 3.76                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 453.97                | 453.97              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (11:45-12:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 27.87                 | 27.80               | 0.00                       | 401.28            | 0.069 | 0.07            | 9.639     | A   |
| C-A    | 573.55                | 573.55              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 7.19                  | 7.18                | 0.00                       | 541.42            | 0.013 | 0.01            | 6.737     | A   |
| A-B    | 4.49                  | 4.49                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 542.08                | 542.08              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (12:00-12:15)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 34.13                 | 34.01               | 0.00                       | 355.76            | 0.096 | 0.10            | 11.180    | B   |
| C-A    | 702.45                | 702.45              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 8.81                  | 8.79                | 0.00                       | 508.73            | 0.017 | 0.02            | 7.200     | A   |
| A-B    | 5.51                  | 5.51                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 663.92                | 663.92              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (12:15-12:30)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-A-C  | 34.13                 | 34.13               | 0.00                       | 355.76            | 0.096 | 0.11            | 11.192    | B   |
| C-A    | 702.45                | 702.45              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 8.81                  | 8.81                | 0.00                       | 508.73            | 0.017 | 0.02            | 7.200     | A   |
| A-B    | 5.51                  | 5.51                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 663.92                | 663.92              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (12:30-12:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 27.87                 | 27.99               | 0.00                       | 401.28            | 0.069 | 0.08            | 9.646     | A   |
| C-A    | 573.55                | 573.55              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 7.19                  | 7.21                | 0.00                       | 541.42            | 0.013 | 0.01            | 6.738     | A   |
| A-B    | 4.49                  | 4.49                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 542.08                | 542.08              | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (12:45-13:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 23.34                 | 23.41               | 0.00                       | 432.81            | 0.054 | 0.06            | 8.794     | A   |
| C-A    | 480.32                | 480.32              | 0.00                       | -                 | -     | -               | -         | -   |
| C-B    | 6.02                  | 6.03                | 0.00                       | 565.07            | 0.011 | 0.01            | 6.441     | A   |
| A-B    | 3.76                  | 3.76                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 453.97                | 453.97              | 0.00                       | -                 | -     | -               | -         | -   |